

2393

RCB
292

CITY COUNCIL OF SINGAPORE

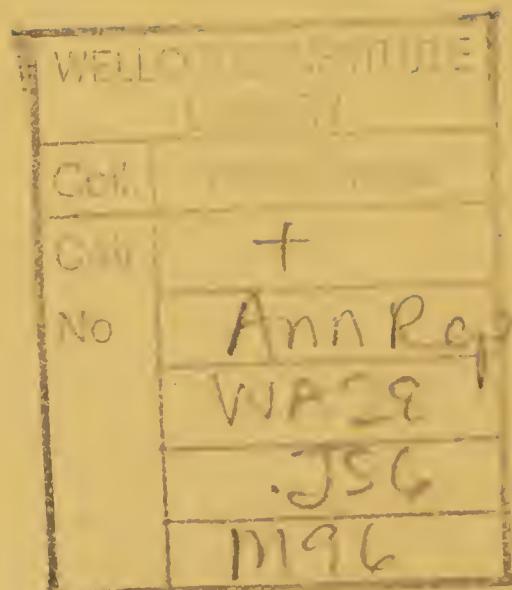


ANNUAL REPORT OF THE
HEALTH DEPARTMENT
1958

PRINTED BY LEL KIM HENG, ACTING GOVERNMENT PRINTER, SINGAPORE.

—
1960

RCB | 292



1958



22501292927

CITY HEALTH DEPARTMENT

ANNUAL REPORT FOR 1958

1958 WAS A VERY FRUITFUL and eventful year for the Department—a year when the Department was called upon to perform a variety of activities and endeavours. With elections held on the 22nd of December, 1957, the City Council for the first time in its history, was a fully elected Council with an elected Mayor. The Local Government Ordinance of 1957 came into operation and the City Limits were extended to include Pasir Panjang, West Coast Road and Clementi Road up to the junction with Bukit Timah Road. On the east side, the City Limits were readjusted to Haig Road. Altogether the approximate area of the City in square miles is 37.6.

When reading this report and appendices it must be borne in mind that the statistics quoted are uncorrected for "inward" or "outward" transfers unless otherwise stated: that patients from outside the town entering hospitals, and other institutions providing medical facilities in the town, adversely affect our Death and Infectious Diseases Rates; that the number of deaths shown as due to the various diseases must necessarily be inaccurate, as slightly over 19 per cent of the persons who die in Singapore have had no medical advice or treatment before death, and the causes of their deaths have had to be surmised by Inspecting Officers without the aid of clinical observations or autopsies.

MID-YEAR POPULATION

The 1957 census population for the City Area was based on the new City Limits and the 1958 mid-year population is estimated on the same basis.

CENSUS 1957—CITY AREA

| | | | |
|------------------------|----|---------|---------|
| Malaysians | .. | .. | 100,531 |
| Chinese | .. | .. | 709,611 |
| Indians and Pakistanis | | .. | 79,962 |
| Europeans | .. | .. | 8,972 |
| Eurasians | .. | .. | 5,756 |
| Others | .. | .. | 7,511 |
| | | | <hr/> |
| Total | .. | 912,343 | |
| | | | <hr/> |

The Registrar of Statistics has supplied the following estimated mid-year population for the City for 1958.

ESTIMATED MID-YEAR POPULATION BY RACES, 1958

| | | | |
|------------------------|----|---------|---------|
| Malaysians | .. | .. | 105,600 |
| Chinese | .. | .. | 741,400 |
| Indians and Pakistanis | | .. | 83,100 |
| Europeans | .. | .. | 9,600 |
| Eurasians | .. | .. | 5,900 |
| Others | .. | .. | 7,800 |
| | | | <hr/> |
| Total | .. | 953,500 | |
| | | | <hr/> |

Details concerning notifiable infectious diseases, vital statistics, etc. and the work carried out by the various sub-departments are set out in appendices as follows:—

A—Notifiable Infectious Diseases.

B—General Measures to combat spread of Infectious Diseases.

C—Birth and Still-Birth Statistics.

D—General Death Rate, Infant Mortality Rate, Neo-Natal Rates, etc., Principal Causes of Death, Death by whom certified.

E—Food Licences Issued; Abattoirs; Burial Grounds; and reports and returns from:—

- (1) Officer in charge of Anti-Mosquito Department.
- (2) Analyst.
- (3) Bacteriologist.
- (4) Senior Assistant Health Officer, Maternity and Child Welfare Department.
- (5) Superintendent, Middleton Hospital.
- (6) Superintendent of Abattoirs.
- (7) Chief Public Health Inspector.
- (8) Medical Officer in charge of Staff.
- (9) Rodent Overseer.
- (10) Infectious Diseases Nurse.

SUMMARY OF PRINCIPAL STATISTICS, 1958

BIRTHS AND DEATHS, ETC.—ALL RACES COMBINED

| | | 1957 | 1958 |
|--|----|--------|--------|
| Total births registered | .. | 46,503 | 47,106 |
| Total deaths registered | .. | 8,405 | 8,272 |
| Excess of births over deaths | .. | 38,098 | 38,834 |
| Birth Rate | .. | 50.40 | 49.40 |
| Crude Death Rate | .. | 9.11 | 8.67 |
| Malarial Death Rate | .. | 0.009 | 0.002 |
| Infantile Mortality Rate | .. | 42.94 | 45.81 |
| Neo-natal Death Rate | .. | 19.85 | 22.42 |
| Still-birth Rate per 1,000 live and still-births | .. | 17.07 | 16.70 |
| Maternal Mortality Rate per 1,000 live-births | .. | 0.90 | 0.91 |

DEATHS BY WHOM CERTIFIED

| | | 1957 | 1958 |
|-----------------------|----|----------|----------|
| | | Per cent | Per cent |
| Medical Practitioners | .. | 63.70 | 65.56 |
| Inspecting Officers | .. | 20.70 | 19.02 |
| Coroner | .. | 15.60 | 14.96 |
| Police Officers | .. | — | .46 |

NOTIFIABLE INFECTIOUS DISEASES IN 1958

| | <i>Cases Notified</i> | | <i>Deaths</i> |
|-------------------------------|---------------------------|-------------------------------------|---------------|
| Tuberculosis (all forms) | .. | 3,483 (including 488 non-residents) | 532 |
| Typhoid | .. | 147 (including 44 non-residents) | 8 |
| Paratyphoid | .. | 2 (including 2 non-residents) | — |
| Diphtheria | .. | 545 (including 131 non-residents) | 40 |
| Leprosy | .. | 91 (including 7 non-residents) | 1 |
| Poliomyelitis | .. | 416 (including 161 non-residents) | 13 |
| Erysipelas | .. | 3 (including 1 non-residents) | — |
| Chicken-pox | .. | 685 (including 161 non-residents) | 1 |
| Small-pox, Cholera and Plague | — | (including — non-residents) | — |

DEATHS CERTIFIED AS DUE TO SOME OF THE NON-NOTIFIABLE INFECTIOUS AND PARASITIC DISEASES IN 1958

| | | | 1957 | 1958 |
|--|----|----|------|------|
| Dysentery—Bacillary | .. | .. | 5 | 6 |
| Unspecified | .. | .. | 6 | 6 |
| Amœbic | .. | .. | 10 | 12 |
| Malaria | .. | .. | 9 | 2 |
| Influenza | .. | .. | 73 | 29 |
| Whooping Cough and Complications | .. | .. | 5 | 2 |
| Measles and Complications | .. | .. | 3 | 26 |
| Leptospirosis interhæmorrhagica (Weil's Disease) | .. | .. | 1 | 4 |
| Tetanus | .. | .. | 21 | 41 |

NON-NOTIFIABLE INFECTIOUS DISEASES TREATED AT THE MIDDLETON HOSPITAL IN 1957 AND 1958

| | | | 1957 | 1958 |
|---------------------|----|----|------|-----------------------------|
| Measles and Rubella | .. | .. | 189 | 358 |
| | | | | (Measles) 7 (Rubella) |
| Whooping Cough | .. | .. | 30 | 38 |
| Amœbic Dysentery | .. | .. | 197 | 156 |
| Bacillary Dysentery | .. | .. | 74 | 60 |
| Clinical Dysentery | .. | .. | 150 | 92 |
| Mumps | .. | .. | 14 | 43 |

VACCINATION

| | | | 1957 | 1958 |
|-----------------------------------|----|----|--------|--------|
| Age Group (0-1) | .. | .. | 33,361 | 33,643 |
| Age Group (1-5) | .. | .. | 1,766 | 1,666 |
| Age Group (5 and over) | .. | .. | 221 | 196 |
| Total vaccinated and revaccinated | .. | .. | 35,348 | 35,505 |

MATERNITY AND CHILD WELFARE DEPARTMENT HOME VISITS BY SISTERS AND HEALTH VISITORS

| | | | 1957 | 1958 |
|---|----|----|---------|---------|
| Mothers visited by District Sisters within 10 days of confinement | .. | .. | 18,237 | 16,637 |
| Subsequent visits by District Sisters to Mothers | .. | .. | 3,172 | 5,802 |
| First visits by Health Visitors to new babies | .. | .. | 30,939 | 28,343 |
| Subsequent visits by Health Visitors to new babies | .. | .. | 61,091 | 47,958 |
| Visits to expectant mothers | .. | .. | 8,724 | 7,128 |
| Visits made in connection with Anti-Diphtheria Immunisation | .. | .. | 5,696 | 6,654 |
| Total visits to homes by Sisters and Health Visitors | .. | .. | 127,859 | 112,522 |

ATTENDANCES AT CLINICS

| | | | | 1957 | 1958 |
|---|----|----|----------------------|---------|-----------------|
| <i>Infants (0-1)</i> | | | | | |
| 1st attendances | .. | .. | .. | 28,300 | 28,870 |
| Subsequent attendances | .. | .. | .. | 185,460 | 188,699 |
| | | | Total attendances | .. | 213,760 217,569 |
| Of these, attendances of sick babies | .. | .. | .. | 134,693 | 151,167 |
| i.e. in percentage .. | .. | .. | .. | 63.01% | 69.48% |
| <i>Preschool Children</i> | | | | | |
| 1st attendances .. | .. | .. | .. | 43,915 | 22,400 |
| Subsequent attendances .. | .. | .. | .. | 38,489 | 41,953 |
| | | | Total attendances .. | .. | 82,404 64,353 |
| Of these, attendances of sick Toddlers .. | .. | .. | .. | 19,095 | 43,335 |
| i.e. in percentage .. | .. | .. | .. | 22.67% | 67.34% |
| <i>Expectant mothers</i> | | | | | |
| 1st attendances .. | .. | .. | .. | 5,278 | 7,311 |
| Subsequent attendances .. | .. | .. | .. | 14,078 | 18,032 |
| | | | Total attendances .. | .. | 19,356 25,343 |

DIPHTHERIA IMMUNISATION—COMPLETE COURSES

| | | 1957 | 1958 |
|--------------------------|----|------|--------------------------|
| Infants (0-1) | .. | .. | .. 8,549 5,232 (Clinics) |
| | | | 5,046 (Mobile) |
| Preschool children (1-5) | .. | .. | 20,748 9,096 |
| Older children (5-10) | .. | .. | 1,569 1,376 |

In addition 4,568 children were immunised against whooping cough as well as diphtheria and 3,559 boosting doses were given of A.P.T. making a total of 28,877.

COUNCIL FREE MIDWIFERY SERVICE

| | | 1957 | 1958 |
|--|----|--------|--------|
| Confinements attended by Council Midwives .. | .. | 1,305 | 1,411 |
| Visits paid to cases discharged from Government Maternity Hospital three days or so after confinement .. | .. | 12,597 | 14,106 |
| Visits subsequently paid to known cases of confinement not attended by Doctors or Midwives .. | .. | 116 | 84 |

CONDUCTION OF CONFINEMENTS

| | | 1957 | 1958 |
|---|----------|--------|--------|
| Government Maternity Hospital .. | .. | 29,299 | 30,073 |
| Private Maternity Homes and by Private Doctors .. | .. | 3,576 | 3,267 |
| Private Midwives .. | .. | 14,566 | 13,310 |
| Council Midwives .. | .. | 1,305 | 1,411 |
| No skilled attention at confinement .. | .. | 628 | 497 |
| | Total .. | 49,374 | 48,558 |

HEALTH OF CITY COUNCIL STAFF

(EXCLUDING SENIOR OFFICERS AS THESE ARE TREATED BY PRIVATE DOCTORS)

AVERAGE STRENGTH OF JUNIOR AND SUBORDINATE STAFF AND DAILY RATED EMPLOYEES
DURING 1958

Approximate number of Junior and Subordinate Staff stationed in Singapore including temporary staff paid out of 'Extra Clerical and Technical Assistance' Votes, and also including females. Figure supplied by Assistant Secretary (Establishment) . . . 3,825

Approximate number of Daily Rated Employees stationed in Singapore including females and young persons. Figure obtained from Establishment Officer (Labour) 9,530

| | Staff (a) | Daily Rated Employees (b) | Total (a) and (b) |
|--|--------------|---------------------------------|----------------------|
| New cases attended at dispensaries (including accidents) | 14,164 | 44,728 | 58,992 |
| Total attendances including first visits at dispensaries | 23,771 | 90,799 | 114,570 |
| Examination for physical fitness | 1,010 | 636 | 1,646 |
| Visits paid to homes by M.O. i/c. Staff .. | 82 | 53 | 135 |
| Cases treated by Private Doctors | 1,940 | 15,980 | 17,920 |
| Days sick leave granted (excluding leave under Workmen's Compensation Ordinance) including leave on account of Tuberculosis by:— | | | |
| (a) M.Os. i/c. Staff | 14,446 | 63,677 | 78,123 |
| (b) Private Practitioners | 5,069 | 32,118 | 38,187 |
| (c) Hospitals | 7,438 | 24,609 | 32,047 |
| Total .. | 26,953 | 121,404 | 148,357 |
| Leave granted under Workmen's Compensation Ordinance | 756 | 12,378 | 13,134 |
| Days leave granted on account of Tuberculosis .. | 2,942 | 9,110 | 12,052 |
| Average number of days sick leave, excluding leave under Workmen's Compensation Ordinance including tuberculosis leave granted per person employed in Junior, Subordinate and Daily Rated Employees and Temporary Staff in 1958 | 7.04 | 12.69 | 11.07 |

On matters of Staff the City Council made the following decision during the year:—

- (1) On the 10th of October, 1958 the practice of accepting Medical Certificates from Private Medical Practitioners for the purpose of sick leave pay for the daily rated labourers and junior monthly staff was discontinued.
- (2) On the 1st of December, 1958 the Panel of Doctors Scheme for Senior Officers was also discontinued.

As a result, all employees of the City Council are required to attend the Staff Clinics for all medical care. This increased pressure of work necessitated the increase of staff for the Clinics.

BIRTH RATE

The all time record of 50.40 in 1957 is levelled down in 1958 with a birth rate of 49.40 which is almost equivalent to that of 1956 (49.11). This 1958 figure is still high and all efforts to reduce this high birth rate should be tackled with more determination by Health Education in Family Planning.

DEATH AND INFANTILE MORTALITY RATES

The rates for the past five years are:—

| | 1954 | 1955 | 1956 | 1957 | 1958 |
|--------------------------|----------|-------|-------|-------|-------|
| Crude Death Rate | .. 10.08 | 9.56 | 8.84 | 9.11 | 8.47 |
| Infantile Mortality Rate | .. 59.66 | 51.60 | 44.02 | 42.94 | 45.81 |

The crude death rate for the year of 8.47 per 1,000 population is the lowest ever recorded. There is a slight rise in the infantile mortality rate.

The population of Singapore is abnormally young as shown by the 1957 census figures for the City of Singapore:—

1957 CENSUS OF POPULATION OF SINGAPORE

CITY OF SINGAPORE

Total Population 912,344

By Sex { Male 484,324
Female 428,020

By Race—

Chinese 709,595
Malaysians 100,537
Indians and Pakistanis 79,961
Others 22,251

By Age Group—

| | | | | | |
|-------------|----|----|----|---------|-------|
| 0—5 years | .. | .. | .. | 187,341 | 48.6% |
| 6—12 years | .. | .. | .. | 158,907 | |
| 13—18 years | .. | .. | .. | 96,519 | |
| 19—29 years | .. | .. | .. | 163,542 | 44.7% |
| 30—39 years | .. | .. | .. | 112,889 | |
| 40—54 years | .. | .. | .. | 131,015 | |
| 55—69 years | .. | .. | .. | 52,035 | |
| 70—84 years | .. | .. | .. | 9,570 | |
| 85+ | .. | .. | .. | 526 | |

48.6 per cent of the population are children or schooling and 44.7 per cent are in the earning group.

The main causes of death are again Bronchitis and Pneumonia. The death rate for Tuberculosis shows a further drop. For the purpose of comparison the following table may be of interest:—

TUBERCULOSIS DEATH RATE PER 1,000 LIVING

| 1931 | 1936 | 1947 | 1951 | 1953 | 1954 | 1955 | 1956 | 1957 | 1958 |
|-------|-------|-------|-------|------|------|------|------|------|------|
| 3.089 | 2.868 | 2.350 | 1.717 | 1.08 | 1.00 | 1.02 | .74 | .70 | .56 |

TYPHOID

103 cases were notified during the year. The cases were from various parts of the town and infection could not be traced to any particular source.

DIPHTHERIA

The incidence of this preventable disease is still high in the country, with 414 cases notified during the year. As usual, the response to immunisation by the public has been disappointing. A mobile team was formed to provide Diphtheria Immunisation to the children in kampongs and in various outlying districts. The response was reasonably good, but due to the Poliomyelitis epidemic in October, all immunisations were suspended.

During 1958, 10,278 children under one year were fully immunised by the Maternity and Child Welfare Clinics. In addition, 10,472 children in the 1—10 age group were done at the Clinics. Also 4,568 children received whooping cough and diphtheria immunisation, and with 3,559 receiving boosting doses with A.P.T., thus the total immunised was 28,877. These results will have no appreciable effect on the rising incidence of the disease.

POLIOMYELITIS

An epidemic of Poliomyelitis occurred in 1958. 255 cases were notified in the City.

In the report by the Acting Medical Superintendent of Middleton Hospital, 404 cases were treated in the hospital, of which, 393 were paralytic and 11 non-paralytic. There were 12 deaths. The epidemic commenced in late August, reaching its peak in October and gradually tailed off in December. All the cases in Singapore were admitted and treated in Middleton Hospital. This has put a great strain on the resources of the hospital. Most of the cases were children below the age of five years. A more detailed account is included in the report of the Acting Medical Superintendent of Middleton Hospital. The virus cultures done by Professor Hale (Professor of Bacteriology, University of Malaya) showed that the outbreak was caused by Type I Polio Virus.

As a result of this epidemic, the Ministry of Health decided to give Sabin Oral Vaccine for the general public, and the Maternity and Child Welfare Department was called upon to assist in this Sabin Immunisation Campaign. 5 Clerks, 10 Nurses and 1 Sister were seconded for this campaign.

MIDDLETON HOSPITAL FOR INFECTIOUS DISEASES

During the year there were 3,679 admissions with 83 deaths, a mortality rate of 2.27 per cent. The hospital continues to be used as the teaching hospital for infectious diseases for the University of Malaya.

MALARIA

The recorded death rate from malaria continues to decrease and was 0.002 per 1,000 population within the City Limits in 1958. 17 cases of malaria were reported within the City. On investigation all were found to be imported cases either from Indonesia or the Federation of Malaya. Thus, the City remained free from malaria during the year. The cost of anti-malarial control measures is approximately \$1.19 per head of population.

ANALYST'S DEPARTMENT

The City Analyst's report showed continuous increase in work during the year 1958, when a total number of 30,293 samples were examined. This is an all time record for the Department exceeding the number examined last year by 1,859—an increase of 6.5 per cent.

The excellent chemical quality of the water was maintained throughout the year.

The whole Singapore water supply is now fluorinated containing 0.7 parts per million of fluorine, and is checked daily by sampling from different points in their distribution network.

FOOD AND DRUGS EXAMINATION

Altogether 1,368 samples were taken for chemical analysis or bacteriological examinations. 749 samples were examined under the Sale of Food and Drugs Ordinance, of which 184 were found to be adulterated below standard or otherwise defective. 130,132 packages (weight 50,684½ lb.) of unsound food and drugs were surrendered and destroyed. Samples of "Chilla Mata", a kind of cosmetic used locally for painting eyebrows, were examined by the City Analyst and found to be essentially lead sulphide. The vendors surrendered all their stocks for destruction.

In the latter part of the year, unsound food from Formosa was reported in the press. This department made investigations on all the food imported from that country and found no truth in the press statement.

MATERNITY AND CHILD WELFARE DEPARTMENT

A full report by the Senior Assistant Health Officer in charge of this department is given in Appendix E (4). The ever increasing number of births and the peculiar pattern of the population which is a young one, have created increasing demands for more and better services rendered by this Department, and the year 1958 was a year of expansion with many developments.

A dental clinic for expectant mothers and toddlers was opened in Prinsep Street Clinic on 2nd January, 1958. It is hoped that more of such clinics will be established in the future.

B.C.G. vaccination was offered to new born infants within the first month of life, at three of our clinics. It is anticipated that this work will be extended to other centres when the necessary staff have received their training.

In fulfilment of the Mayor's expansion projects, four new creches were completed during the year. This is the first time that the City Council has embarked on such a service.

The Institute of Health was completed and officially opened by the Minister of Health in March 1958. With the establishment of the Maternity and Child Welfare Section in this Institute, the temporary clinic at Moh Guan Terrace was converted into a children's creche.

A Mobile Anti-Diphtheria Immunisation Team established in 1957 by the Health Department was brought under the control of the Maternity and Child Welfare Department in February 1958. Although the team worked under difficulties, such as transport, staff, etc., the results have been encouraging. It ceased to function when the poliomyelitis epidemic commenced in October.

During the year the services of this department were required to co-operate with other agencies in Baby Shows; the Mass Health Movement sponsored by the Mayor; and in the Geylang Fire in Lorong Koo Chye, in providing a baby feeding service and a casualty station in the refugee camps.

During the Poliomyelitis epidemic, the staff assisted in the Middleton Hospital and the "Sabin" Vaccination Campaign.

MAYOR'S PROGRAMME FOR THE YEAR

During the year the Mayor in his inauguration speech laid down a programme which included the establishment of five Public Dispensaries, three Mobile Dispensaries and four Creches. This programme was completed successfully within the time specified. Mention has already been made in the Report of the Senior Assistant Health Officer in charge of the Maternity and Child Welfare Department regarding the establishment of four Creches. Since their opening in July, there have been a total of 18,137 attendances from infants and toddlers.

For the first time in the history of the City Council, the Health Department provides an out-patient therapeutic service for the general public. Five Public Dispensaries were established at the following places:—

- Upper Pickering Street.
- Desker Road.
- Kee Seng Street.
- Prince Philip Avenue.
- Upper Aljunied Road.

These dispensaries have been very well utilised with an average daily attention of patients of about 150 per day dispensary. Each patient is charged a fee of 50 cents per attendance. Only minor ailment treatment is given.

One Mobile Dispensary was commissioned for service in July and the other two in December. They visited various remote parts of the City and kampongs. The response was very satisfactory. Our difficulty is the recruitment of Doctors and qualified staff to man all the Dispensaries.

MASS HEALTH CAMPAIGN

The Mayor organised three Mass Health Campaigns—anti-spitting, anti-litter, and anti-pest, which commenced in August and ended in December. A tremendous amount of work and energy were spent during the preparation stage and during the campaign. Two Public Health Inspectors were seconded full time to organise these campaigns, and the whole department took part in the distribution of posters and propaganda. A Health Exhibition organised by the Department was held at the Victoria Memorial Hall, all the sub-departments taking part in it. The exhibition was mainly on anti-pests. The exhibition was highly successful and the exhibits were all of a very high standard.

STAFF TRAINING

Messrs. Goon Peng Yam, Charlie Chan Boon Kwang, and Wong Keng Mun were successful in obtaining the Diploma of the Royal Sanitary Institute of Health.

Messrs. R. Rajakrishna and Sunny Choo Chiang Cheng, on Colombo Plan Scholarships to New Zealand, returned in June 1958, after having obtained the Diploma of the Royal Sanitary Institute of Health Course of that country.

Dr. N. R. Tan obtained the Diploma in Public Health of the University of Malaya.

Dr. Tan Cheng Im left for U.K. in August to take a course leading to the Diploma in Child Health in Great Ormond Street Hospital.

Sister Grace Kee Soon Bee resumed duties on 5th September, 1958 after completing her Colombo Plan Scholarship training in Australia. She obtained the Fever Nursing Certificate and Ward Sister's Diploma.

STAFF

Dr. J. Cameron, Deputy Health Officer, was acting in the post of City Health Officer until 30th November, 1958 when he proceeded on leave prior to retirement under the Malayanisation Terms. We extend to him our best wishes in his future.

On my return from U.K. on vacation leave I was appointed City Health Officer with effect from 1st December, 1958, after having acted in the post of Deputy Officer for more than a year.

Mr. C. G. Clunies Ross, Senior Public Health Inspector, resigned on 15th October, 1958.

Mr. Seah Cheng Hock, Public Health Inspector, resigned on 10th October, 1958.

Messrs. K. Muthucumaru and K. Narayanan of the Anti-Mosquito Department, were medically boarded out of the service.

Mr. T. A. Spillane, City Analyst, left the service after having been in the Department for 11 years.

Dr. Ivy Chew of the Maternity and Child Welfare Department resigned from the service with effect from September.

Two Health Sisters and three Health Visitors resigned.

One Midwife was dismissed.

Mr. Lee Kwong Soon, Deputy Chief Public Health Inspector, was on sick leave prior to being boarded out of the service.

Mr. J. W. Bennett, Chief Public Health Inspector, was on leave prior to resignation on 1st January, 1959.

Dr. Diana Loh Pui Ying joined the Maternity and Child Welfare Department in November 1958.

NG SEE YOOK, L.M.S., D.P.H.,
City Health Officer.

Table 1

NOTIFIABLE INFECTIOUS DISEASES

The number of cases notified in persons who were stated to be ordinarily resident within the City Area in 1958 and in the previous five years are shown in the table which follows:—

| | 1953 | 1954 | 1955 | 1956 | 1957 | Average for 5 years | 1958 |
|----------------------|------|------|-------|-------|-------|---------------------|---------|
| Small-pox | .. | .. | .. | .. | .. | .. | .. |
| Plague | .. | .. | .. | .. | .. | .. | .. |
| Cholera | .. | .. | .. | .. | .. | .. | 103 |
| Typhoid Fever | .. | .. | .. | .. | .. | .. | 93.6 |
| Para-typhoid Fever | .. | .. | .. | .. | .. | .. | 1.0 |
| Diphtheria | .. | .. | .. | .. | .. | .. | 372.0 |
| Cerebro-Spinal Fever | .. | .. | .. | .. | .. | .. | .. |
| Typhus Fever* | .. | .. | .. | .. | .. | .. | .. |
| Scarlet Fever | .. | .. | .. | .. | .. | .. | .. |
| Leprosy | .. | .. | .. | .. | .. | .. | .. |
| Poliomyelitis | .. | .. | .. | .. | .. | .. | .. |
| Anthrax | .. | .. | .. | .. | .. | .. | .. |
| Puerperal Fever | .. | .. | .. | .. | .. | .. | .. |
| Erysipelas | .. | .. | .. | .. | .. | .. | .. |
| Chicken-pox | .. | .. | .. | .. | .. | .. | .. |
| Tuberculosis | .. | .. | .. | .. | .. | .. | .. |
| | | | | | | | |
| Total | .. | .. | 4,187 | 4,279 | 5,317 | 4,952 | 4,419 |
| | | | | | | | 4,630.8 |
| | | | | | | | 4,459 |

* Under the heading of Typhus are included Tsutsugamushi or Scrub Typhus of Malaya (Mite Borne) and Flea Borne (Urban Type Tropical Typhus). Louse Borne Typhus has not been seen in Singapore.

† 2 Flea Borne and 2 Mite Borne.

‡ Flea Borne.

§ Mite Borne.

Table 2

NOTIFIABLE INFECTIOUS DISEASES BY RACES FOR THE YEAR 1958

| | | Euro-peans | Eura-sians | Chinese | Malays | Indians | Others | Total |
|----------------------|----|------------|------------|----------------|--------------|--------------|-----------|----------------|
| Typhoid Fever | .. | 1 (1) | — (—) | 76 (26) | 17 (10) | 9 (6) | — (1) | 103 (44) |
| Diphtheria | .. | 1 (1) | 3 (—) | 373 (120) | 24 (5) | 12 (5) | 1 (—) | 414 (131) |
| Chicken-pox | .. | 6 (2) | 11 (7) | 210 (46) | 75 (17) | 217 (89) | 5 (—) | 524 (161) |
| Poliomyelitis | .. | 3 (8) | 2 (1) | 203 (109) | 28 (17) | 19 (26) | — (—) | 255 (161) |
| Cerebro-spinal Fever | .. | — (—) | — (—) | — (—) | — (—) | — (—) | — (—) | — (—) |
| Tuberculosis | .. | 1 (1) | 11 (1) | 2,631 (401) | 200 (62) | 148 (21) | 4 (2) | 2,995 (488) |
| Para-typhoid Fever | .. | — (—) | — (—) | — (—) | — (1) | — (1) | — (—) | — (2) |
| Small-pox | .. | — (—) | — (—) | — (—) | — (—) | — (—) | — (—) | — (—) |
| Leprosy | .. | 1 (—) | — (—) | 70 (6) | 4 (1) | 9 (—) | — (—) | 84 (7) |
| Typhus Fever | .. | — (—) | — (—) | 1* (—) | — (—) | — (—) | — (—) | 1* (—) |
| Erysipelas | .. | 1 (—) | — (—) | 1 (1) | — (—) | — (—) | — (—) | 2 (1) |
| Puerperal Fever | .. | — (—) | — (—) | 25 (—) | 52 (—) | 3 (—) | 1 (—) | 81 (—) |
| Cholera | .. | — (—) | — (—) | — (—) | — (—) | — (—) | — (—) | — (—) |
| Total | .. | 14 (13) | 27 (9) | 3,590 (709) | 400 (113) | 417 (148) | 11 (3) | 4,459 (995) |

* Mite borne

The figures not in brackets are of cases notified in persons ordinarily resident in the City Area.

The figures in brackets are Imported Cases and cases from Rural Board treated in Hospitals or Institutions in the City Area but not ordinarily resident in the City Area.

Table 3

NOTIFIABLE INFECTIOUS DISEASES BY MONTHS FOR THE YEAR 1958
(Figures in brackets are cases in non-residents)

| Month | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|----------------------|------|------|------|-------|------|------|------|------|-------|------|------|------|-------|
| Typhoid Fever | .. | 8 | 10 | 11 | 10 | 18 | 4 | 9 | 8 | 5 | 2 | 10 | 103 |
| Diphtheria | .. | 62 | (4) | 45 | (4) | 22 | (2) | 38 | (3) | 32 | (1) | (4) | (44) |
| Chicken-pox | .. | (14) | (8) | (14) | (9) | (16) | (13) | (13) | (15) | (7) | (2) | 26 | 414 |
| Puerperal Fever | .. | 68 | 54 | 92 | (20) | (16) | 59 | 26 | 35 | 26 | 38 | (2) | (131) |
| Poliomyelitis | .. | (32) | (12) | (15) | (5) | (15) | (7) | (5) | (11) | (9) | (4) | 26 | 524 |
| Cerebro-Spinal Fever | .. | 4 | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | 10 | (161) |
| Tuberculosis | .. | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) |
| Para-typhoid Fever | .. | 205 | (43) | 136 | (43) | 155 | (29) | 128 | (25) | 179 | (28) | 148 | 548 |
| Small-pox | .. | (4) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Leprosy | .. | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) |
| Typhus Fever | .. | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) |
| Erysipelas | .. | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) |
| Cholera | .. | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) | (-) |
| Total | .. | 354 | (98) | 258 | (67) | 327 | (69) | 223 | (54) | 340 | (70) | 209 | 321 |
| | | | | | | | | | | | | | 455 |
| | | | | | | | | | | | | | (152) |
| | | | | | | | | | | | | | (98) |
| | | | | | | | | | | | | | 4,459 |
| | | | | | | | | | | | | | (995) |

*Typhus Mite Borne.

Table 4

CLINICAL DOCUMENTS IN 1050 NY PAGES SEV AND AGE COVID

CONFIRMED CASES NOTIFIED IN 1938 BY RACES, SEX AND AGE GROUP

Table includes imported cases as well as those in City Residents

1161 of the 416 confirmed cases of Poliomyelitis notified within the City Area were non-residents.

Table 5
POLIOMYELITIS CASES NOTIFIED AND CONFIRMED IN 1958
Under 5 years of age (Resident and non-resident)
Cases in Service Personnel and Families included

| | 0-1 year | | 1-2 years | | 2-3 years | | 3-4 years | | 4-5 years | | Total under 5 years | | Total over 5 years | |
|-----------|----------|----|-----------|----|-----------|----|-----------|----|-----------|----|---------------------|-----|--------------------|----|
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | | |
| | | | | | | | | | | | | | | |
| Europeans | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 11 |
| Eurasians | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | 2 | |
| Chinese | .. | .. | 47 | 43 | 61 | 52 | 24 | 21 | 9 | 3 | 6 | 4 | 270 | 42 |
| Malays | .. | .. | 8 | 5 | 14 | 6 | 2 | 5 | .. | .. | .. | .. | 40 | 7 |
| Indians | .. | .. | 7 | 7 | 9 | 5 | 4 | 3 | .. | 4 | .. | .. | 39 | 4 |
| Others | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Total | .. | 62 | 55 | 84 | 63 | 31 | 29 | 9 | 7 | 6 | 4 | 350 | 66 | |

Table 6

PERCENTAGE OF PARALYTIC AND NON-PARALYTIC POLIOMYELITIS CASES TREATED AT MIDDLETON HOSPITAL 1957 AND 1958.

| | | 1957 | 1958 |
|---|----|------|----------|
| Total cases treated at Middleton Hospital | .. | 52 | 404 |
| Paralytic cases | .. | .. | 52 |
| Non-paralytic cases | .. | .. | .. |
| Percentage of Paralytic cases | .. | .. | 100% 97% |

Table 7

NOTIFICATIONS OF TUBERCULOSIS (ALL TYPES) JANUARY/JULY 1958
(IN CITY RESIDENTS ONLY)

| Sex | AGE GROUPS | | | | | | | Total |
|------------|------------|------------|-------------|-------------|-------------|---------------|----------------|-------|
| | 0-5 years | 5-10 years | 10-15 years | 15-20 years | 20-45 years | Over 45 years | Age not stated | |
| Males .. | 15 | 7 | 1 | 43 | 454 | 353 | 2 | 875 |
| Females .. | 19 | 5 | 3 | 17 | 153 | 95 | .. | 292 |
| Total .. | 34 | 12 | 4 | 60 | 607 | 448 | 2 | 1,167 |

N.B.—Figures for August to December 1958 are not available.

Table 8

INSTITUTIONS, ETC., WHENCE TUBERCULOSIS NOTIFICATIONS WERE RECEIVED

2,995 cases of Tuberculosis (all types) in City residents and 488 in non-residents, i.e. 3,483 in all, were notified during the year. 3 of these were not ordinarily resident in the Colony.

| Notified by | R.S.T.C. | T.T.S. Clinic | General Hospital | Total R.S.T.C. and Hospitals | Private Practitioners | Total |
|--------------------------|----------|---------------|------------------|------------------------------|-----------------------|-------|
| Number of cases notified | 1,929 | 1,110 | 74 | 3,113 | 370 | 3,483 |

APPENDIX B

Table 1

GENERAL MEASURES TAKEN TO PREVENT IMPORTATION AND SPREAD OF INFECTIOUS DISEASES

PASSENGERS UNDER SURVEILLANCE DURING THE YEAR 1958

| | |
|---|-------|
| Number of Passenger Undertakings received .. | 1,301 |
| Number of Persons under surveillance .. | 1,540 |
| Number of Persons seen .. | 1,245 |
| Number of Persons not seen and could not be traced .. | 295 |

Table 2

HOUSES QUARANTINED, DISINFECTED, AND INFECTIOUS CASES REMOVED TO INFECTIOUS HOSPITAL, TRAFALGAR HOSPITAL

| | | | | |
|--|----|----|----|-------|
| Houses quarantined .. | .. | .. | .. | — |
| Houses Disinfected .. | .. | .. | .. | 1,346 |
| Infectious cases removed to Infectious Hospital .. | | | .. | 1,168 |
| Leper cases removed to Trafalgar Hospital .. | | | .. | — |

Table 3

VACCINATIONS BY CITY VACCINATORS, MEDICALMEN, PRIVATE AND GOVERNMENT VACCINATORS
1958

| — | Successful | Modified | Failed | Not seen | Total |
|--|------------|----------|--------|----------|--------|
| City Vaccinators | 23,396 | 64 | 9 | 467 | 23,936 |
| Medicalmen | 11,265 | .. | 20 | .. | 11,285 |
| Private and Government Vaccinators | 284 | .. | .. | .. | 284 |
| Total .. | 34,945 | 64 | 29 | 467 | 35,505 |

Table 4

VACCINATION BY RACE AND AGE GROUPS, 1958

| Race | Under 6 months | 6-12 months | 1-5 years | Over 5 years | Total |
|-----------------|----------------|-------------|-----------|--------------|--------|
| Chinese | 18,215 | 7,570 | 1,443 | 171 | 27,399 |
| Malays | 3,640 | 1,379 | 166 | 18 | 5,203 |
| Indians | 1,969 | 587 | 43 | 5 | 2,604 |
| Eurasians | 151 | 59 | 8 | 2 | 220 |
| Europeans | 40 | 6 | 6 | .. | 52 |
| Others | 24 | 3 | .. | .. | 27 |
| Total .. | 24,039 | 9,604 | 1,666 | 196 | 35,505 |

Table 1
BIRTHS AND STILL-BIRTHS

The following is the number of births for each month of the year, 1957 figures being also shown:—

| Month | 1958 | 1957 | Month | 1958 | 1957 |
|-------------|--------|--------|--------------|--------|--------|
| January .. | 3,864 | 3,912 | July .. | 4,735 | 3,820 |
| February .. | 2,984 | 3,525 | August .. | 3,863 | 3,828 |
| March .. | 2,862 | 3,669 | September .. | 3,452 | 3,899 |
| April .. | 4,713 | 3,737 | October .. | 4,926 | 4,329 |
| May .. | 4,109 | 4,105 | November .. | 4,030 | 4,248 |
| June .. | 3,413 | 3,520 | December .. | 4,155 | 3,911 |
| Total .. | 21,945 | 22,468 | Total .. | 25,161 | 24,035 |

Table 2

The births registered by races were:—

| | 1958 | | | 1957 | | |
|--------------|--------|---------|---------|--------|---------|---------|
| | Males | Females | Total | Males | Females | Total |
| Europeans .. | 451 | 410 | 861 | 187 | 182 | 369 |
| Eurasians .. | 138 | 165 | 303 | 178 | 155 | 333 |
| Chinese .. | 18,480 | 17,209 | 35,790* | 18,806 | 17,557 | 36,367† |
| Malays .. | 2,786 | 2,640 | 5,426 | 2,546 | 2,303 | 4,849 |
| Indians .. | 2,125 | 2,048 | 4,174‡ | 2,172 | 2,025 | 4,198§ |
| Others .. | 294 | 258 | 552 | 203 | 184 | 387 |
| Total .. | 24,274 | 22,830 | 47,106 | 24,092 | 22,406 | 46,503 |

* Includes 1 Chinese sex unknown.

† Includes 4 Chinese sex unknown.

‡ Includes 1 Indian sex unknown.

§ Includes 1 Indian sex unknown.

Table 3

The birth rate for each race in 1958 and the corresponding rate for 1957 are shown in the table which follows:—

| | | 1958 | 1957 |
|-----------------------|----|-------|-------|
| Europeans .. | .. | 89.69 | 95.96 |
| Eurasians .. | .. | 51.36 | 52.64 |
| Chinese .. | .. | 48.27 | 50.43 |
| Malays .. | .. | 51.38 | 53.97 |
| Indians .. | .. | 50.23 | 52.19 |
| Others .. | .. | 70.27 | 73.49 |
| All Races Combined .. | .. | 49.40 | 42.94 |

Table 4

The table which follows, shows the number of live-births by race and sex that occurred at the Kandang Kerbau Maternity Hospital in 1958 and also the percentage of the total registered live-births of each race born at this hospital:—

| | | 1958 | | | Percentage of total births registered by race born at Kandang Kerbau Maternity Hospital | |
|-----------------|----|--------|---------|------------|---|-------|
| | | Males | Females | Both Sexes | 1958 | 1957 |
| | | | | | | |
| Chinese | .. | 12,887 | 12,078 | 24,965 | 69.75 | 63.22 |
| Indians | .. | 1,611 | 1,557 | 3,168 | 75.90 | 71.61 |
| Malays | .. | 570 | 544 | 1,114 | 20.53 | 15.26 |
| Europeans | .. | 103 | 92 | 195 | 22.65 | 62.33 |
| Eurasians | .. | 95 | 123 | 218 | 71.95 | 63.66 |
| Others | .. | 153 | 114 | 267 | 48.37 | 53.75 |
| Total All Races | .. | 15,419 | 14,508 | 29,927 | 63.53 | 58.90 |

N.B.—Besides the 195 Europeans born at this Hospital 577 (or 67.01) more were born at the British Military Hospital.

Table 5

The percentage of the total births registered by races in the Census years 1911, 1921, 1931, 1947 and in 1953—1958 is shown in the table which follows:—

| Year | Total Births | Chinese | Malays | Indians | Other Races | Percentage of Total Births | | | |
|------|--------------|---------|--------|---------|-------------|----------------------------|--------|---------|-------------|
| | | | | | | Chinese | Malays | Indians | Other Races |
| 1911 | .. | 5,560 | 3,750 | 1,051 | 406 | 67.4 | 18.8 | 7.3 | 7.52 |
| 1921 | .. | 10,237 | 7,789 | 1,270 | 640 | 76.0 | 12.4 | 6.2 | 5.26 |
| 1931 | .. | 16,488 | 13,229 | 1,758 | 917 | 80.23 | 10.66 | 5.56 | 3.54 |
| 1947 | .. | 30,548 | 24,247 | 3,233 | 2,323 | 79.3 | 10.5 | 7.6 | 2.44 |
| 1953 | .. | 39,322 | 31,076 | 4,062 | 3,387 | 79.03 | 10.33 | 8.61 | 2.03 |
| 1954 | .. | 40,935 | 32,018 | 4,466 | 3,468 | 78.22 | 10.91 | 8.47 | 2.40 |
| 1955 | .. | 42,090 | 32,830 | 4,564 | 3,650 | 78.00 | 10.84 | 8.67 | 2.49 |
| 1956 | .. | 44,044 | 34,500 | 4,679 | 3,801 | 78.33 | 10.62 | 8.63 | 2.42 |
| 1957 | .. | 46,503 | 36,367 | 4,849 | 4,198 | 78.20 | 10.43 | 9.03 | 2.34 |
| 1958 | .. | 47,106 | 35,790 | 5,426 | 4,174 | 75.98 | 11.52 | 8.86 | 3.64 |

Table 6

The Still-births registered in 1958 and 1957 are shown in the table which follows:—

| | | 1958 | | | 1957 | | |
|-----------|----------|-------|---------|-------|-------|---------|-------|
| | | Males | Females | Total | Males | Females | Total |
| Europeans | .. | 2 | 3 | 5 | 1 | .. | 1 |
| Eurasians | .. | 2 | 2 | 4 | 3 | 2 | 5 |
| Chinese | .. | 259 | 244 | 503 | 275 | 246 | 524* |
| Malays | .. | 85 | 77 | 164† | 78 | 64 | 142 |
| Indians | .. | 43 | 65 | 108 | 53 | 58 | 111 |
| Others | .. | 11 | 5 | 16 | 6 | 5 | 11 |
| | Total .. | 402 | 396 | 800 | 416 | 375 | 794 |

* Includes 3 Chinese sex unknown.

† Includes 2 Malays sex unknown.

Table 7

The percentage of illegitimate births over live-births was .08 for the year 1958 and the table below shows the sex and racial groups of mothers:—

| | | Male | Female | Total |
|------------------------|----------|------|--------|-------|
| Europeans | .. | .. | 1 | .. |
| Eurasians | .. | .. | 1 | 1 |
| Chinese | .. | .. | 10 | 17 |
| Malaysians | .. | .. | 1 | 1 |
| Indians and Pakistanis | .. | .. | 2 | 2 |
| Others | .. | .. | 1 | 2 |
| | Total .. | 16 | 23 | 39 |

APPENDIX D

Table 1

DEATHS

The following return show the number of deaths and the death rate for each month of the year:—

| Month | No. of Deaths | Death Rate | Month | No. of Deaths | Death Rate |
|----------------|---------------|------------|-----------------|---------------|------------|
| January | 682 | 8.43 | July | 733 | 9.06 |
| February | 578 | 7.90 | August | 686 | 8.48 |
| March | 720 | 8.90 | September | 741 | 9.46 |
| April | 620 | 7.92 | October | 770 | 9.51 |
| May | 689 | 8.51 | November | 679 | 8.66 |
| June | 736 | 9.40 | December | 638 | 7.88 |

Table 2

The chief causes of death and the rate per 1,000 living for each disease in 1958 and 1957 are set in the table which follows:—

| | | 1958 | | 1957 | |
|--|-------|-------|----------------|-------|----------------|
| | | Cases | Rate per Mille | Cases | Rate per Mille |
| Bronchitis and Pneumonia | 1,018 | 1.07 | 1,042 | 1.13 | |
| Tuberculosis | 532 | 0.56 | 650 | 0.70 | |
| Diarrhoea and Enteritis | 486 | 0.51 | 491 | 0.53 | |
| Diseases of early Infancy | 928 | 0.97 | 857 | 0.93 | |
| Infantile Convulsions (up to 5 years) | 120 | 0.13 | 149 | 0.16 | |
| Violence | 541 | 0.57 | 574 | 0.62 | |
| Heart Disease | 593 | 0.62 | 722 | 0.78 | |
| Old Age | 456 | 0.48 | 502 | 0.54 | |
| Cancer | 631 | 0.66 | 650 | 0.70 | |
| Nephritis | 186 | 0.19 | 208 | 0.23 | |
| Beri-Beri | 54 | 0.06 | 117 | 0.13 | |
| Diphtheria | 40 | 0.04 | 63 | 0.07 | |
| Malaria | 2 | 0.002 | 9 | 0.009 | |
| Dysenteries | 24 | 0.025 | 21 | 0.02 | |
| Typhoid | 8 | 0.008 | 5 | 0.005 | |
| Cerebral Hæmorrhage and other vascular leisons | 399 | 0.42 | 420 | 0.46 | |

Table 3
SINGAPORE DEATH REGISTERED IN 1958 IN CITY AREA BY AGE, RACIAL GROUP AND SEX

| M. and F. | TOTAL | | CHINESE | | MALAYSIANS | | INDIANS AND PAKISTANIS | | EUROPEANS | | EURASIANS | | OTHERS | |
|-------------------------------|-------|--------|---------|-----|------------|-----|------------------------------|-----|-----------|----|-----------|----|--------|----|
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. |
| | | | | | | | | | | | | | | |
| Under 1 day | | | | | | | | | | | | | | |
| 1 day and under 2 days | 258 | 149 | 109 | 65 | 22 | 8 | 10 | 7 | 4 | 1 | 3 | 2 | 1 | |
| 2 days and under 3 days | 179 | 112 | 67 | 44 | 20 | 11 | 10 | 10 | 4 | 1 | 2 | 2 | 2 | |
| 3 days and under 4 days | 125 | 76 | 49 | 35 | 14 | 12 | 5 | 2 | 2 | 1 | 1 | 1 | 1 | |
| 4 days and under 5 days | *89 | 60 | 28 | 19 | 13 | 3 | 5 | 4 | 2 | 1 | 1 | 1 | 1 | |
| 5 days and under 6 days | 56 | 31 | 25 | 20 | 15 | 8 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | |
| 6 days and under 7 days | 40 | 23 | 17 | 16 | 13 | 5 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | |
| 7 days and under 14 days | 43 | 22 | 21 | 17 | 14 | 3 | 5 | 2 | 2 | 1 | 1 | 1 | 1 | |
| 14 days and under 21 days | 135 | 95 | 42 | 64 | 32 | 20 | 6 | 7 | 2 | 1 | 1 | 1 | 2 | |
| 21 days and under 28 days | 66 | 48 | 18 | 35 | 11 | 7 | 4 | 5 | 2 | 1 | 1 | 1 | 1 | |
| | 64 | 40 | 24 | 27 | 15 | 9 | 6 | 4 | 3 | 1 | 1 | 1 | 1 | |
| | | | | | | | | | | | | | | |
| Neo-Natal Deaths | .. | *1,055 | 654 | 400 | 465 | 263 | 121 | 82 | 46 | 38 | 11 | 8 | 2 | 6 |
| | | | | | | | | | | | | | 9 | 3 |
| 28 days and under 2 months | 196 | 109 | 87 | 71 | 24 | 18 | 13 | 10 | .. | 2 | .. | .. | 1 | .. |
| 2 months and under 3 months | 155 | 85 | 70 | 55 | 23 | 16 | 5 | 4 | .. | .. | 1 | 1 | 2 | .. |
| 3 months and under 4 months | 111 | 60 | 51 | 36 | 19 | 9 | 4 | 7 | .. | 1 | 1 | 1 | 1 | .. |
| 4 months and under 5 months | 116 | 56 | 60 | 32 | 41 | 17 | 12 | 4 | 6 | 1 | .. | .. | 2 | .. |
| 5 months and under 6 months | 90 | 47 | 43 | 30 | 26 | 13 | 12 | 4 | 4 | .. | .. | 1 | .. | 1 |
| 6 months and under 7 months | 105 | 57 | 48 | 36 | 36 | 16 | 10 | 3 | 2 | .. | .. | 1 | 1 | .. |
| 7 months and under 8 months | 80 | 35 | 45 | 22 | 23 | 9 | 17 | 3 | 4 | .. | .. | 1 | 1 | 1 |
| 8 months and under 9 months | 75 | 45 | 30 | 34 | 19 | 8 | 3 | 2 | 3 | .. | .. | 1 | .. | .. |
| 9 months and under 10 months | 70 | 37 | 33 | 27 | 20 | 8 | 9 | 2 | 3 | .. | .. | 1 | .. | .. |
| 10 months and under 11 months | 57 | 23 | 34 | 18 | 26 | 4 | 7 | 1 | 1 | .. | .. | 1 | .. | .. |
| 11 months and under 1 year | 49 | 22 | 27 | 11 | 11 | 10 | 15 | 1 | 1 | .. | .. | .. | .. | .. |
| | | | | | | | | | | | | | | |
| Infant Mortality† | .. | *2,159 | 1,230 | 928 | 837 | 605 | 272 | 215 | 89 | 81 | 12 | 12 | 4 | 10 |
| | | | | | | | | | | | | | 16 | 5 |

* Includes 1 of unknown sex (Chinese).

† Includes neo-natal deaths.

Table 3—*continued*

SINGAPORE DEATH REGISTERED IN 1958 IN CITY AREA BY AGE, RACIAL GROUP AND SEX

| | TOTAL | | | CHINESE | | | MALAYSIANS | | | INDIANS AND PAKISTANIS | | | EUROPEANS | | | EURASIANS | | | OTHERS | | |
|---------------------------|-----------------|----|----|---------|-------|------------|------------|------------------------|-----|------------------------|-----|-----------|-----------|--------|----|-----------|----|----|--------|----|--|
| | M. and F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | | |
| | | | | CHINESE | | MALAYSIANS | | INDIANS AND PAKISTANIS | | EUROPEANS | | EURASIANS | | OTHERS | | | | | | | |
| Under 1 year | .. | .. | .. | *2,159 | 1,230 | 928 | 837 | 605 | 272 | 215 | 89 | 81 | 12 | 12 | 4 | 10 | 16 | 5 | .. | .. | |
| 1 year and under 2 years | .. | .. | .. | 347 | 189 | 158 | 129 | 111 | 47 | 28 | 11 | 15 | .. | .. | 2 | 2 | .. | .. | .. | .. | |
| 2 years and under 3 years | .. | .. | .. | 190 | 100 | 90 | 75 | 77 | 17 | 7 | 8 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | |
| 3 years and under 4 years | .. | .. | .. | 122 | 61 | 61 | 48 | 50 | 7 | 10 | 3 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | |
| 4 years and under 5 years | .. | .. | .. | 88 | 59 | 29 | 50 | 24 | 6 | 4 | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | |
| 5—9 years | .. | .. | .. | 211 | 109 | 102 | 87 | 72 | 13 | 20 | 6 | 8 | 1 | .. | .. | .. | .. | .. | .. | .. | |
| 10—14 years | .. | .. | .. | 114 | 74 | 40 | 60 | 27 | 9 | 7 | 4 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | |
| 15—19 years | .. | .. | .. | 121 | 72 | 49 | 59 | 31 | 7 | 11 | 1 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | |
| 20—24 years | .. | .. | .. | 131 | 80 | 51 | 56 | 27 | 10 | 17 | 6 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | |
| 25—29 years | .. | .. | .. | 170 | 98 | 72 | 59 | 47 | 15 | 17 | 10 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | |
| 30—34 years | .. | .. | .. | 176 | 108 | 68 | 64 | 53 | 18 | 11 | 15 | 3 | 4 | .. | .. | .. | .. | .. | .. | .. | |
| 35—39 years | .. | .. | .. | 232 | 148 | 84 | 94 | 59 | 7 | 13 | 37 | 9 | 5 | .. | .. | .. | .. | .. | .. | .. | |
| 40—44 years | .. | .. | .. | 342 | 217 | 125 | 145 | 105 | 22 | 15 | 37 | 3 | 8 | .. | .. | .. | .. | .. | .. | .. | |
| 45—49 years | .. | .. | .. | 466 | 333 | 133 | 247 | 109 | 28 | 13 | 49 | 8 | 2 | .. | .. | .. | .. | .. | .. | .. | |
| 50—54 years | .. | .. | .. | 587 | 430 | 157 | 334 | 128 | 22 | 18 | 62 | 8 | 6 | .. | .. | .. | .. | .. | .. | .. | |
| 55—59 years | .. | .. | .. | 604 | 427 | 177 | 333 | 143 | 29 | 21 | 55 | 10 | 7 | .. | .. | .. | .. | .. | .. | .. | |
| 60—64 years | .. | .. | .. | 623 | 423 | 200 | 355 | 172 | 34 | 19 | 25 | 7 | 5 | .. | .. | .. | .. | .. | .. | .. | |
| 65—69 years | .. | .. | .. | 577 | 353 | 224 | 298 | 203 | 18 | 10 | 25 | 7 | 6 | .. | .. | .. | .. | .. | .. | .. | |
| 70—74 years | .. | .. | .. | 452 | 240 | 212 | 206 | 200 | 17 | 7 | 10 | 4 | 2 | .. | .. | .. | .. | .. | .. | .. | |
| 75—79 years | .. | .. | .. | 270 | 130 | 140 | 110 | 135 | 8 | 2 | 8 | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | |
| 80—84 years | .. | .. | .. | 158 | 62 | 96 | 51 | 87 | 8 | 6 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| 85 years and over | .. | .. | .. | 120 | 35 | 85 | 24 | 67 | 8 | 13 | 3 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Unknown | .. | .. | .. | †12 | 5 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Total | .. | .. | .. | †8,272 | 4,983 | 3,282 | 3,722 | 2,532 | 622 | 485 | 470 | 195 | 79 | 20 | 35 | 28 | 55 | 22 | .. | .. | |

*Includes 1 of unknown sex (Chinese).

†Includes 6 of unknown sex (Chinese).

‡Includes 7 of unknown sex.

Table 4
INFANTILE MORTALITY BY RACES, 1949-1958

| Year | Europeans | Eurasians | Chinese | Malays | Indians | Others | All Races | |
|------|-----------|-----------|---------|--------|---------|--------|-----------|-------|
| 1949 | .. | 19.3 | 38.7 | 74.3 | 122.7 | 82.1 | 109.5 | 79.18 |
| 1950 | .. | 18.9 | 53.0 | 87.4 | 145.8 | 71.3 | 65.9 | 91.22 |
| 1951 | .. | 21.7 | 41.1 | 73.7 | 130.4 | 68.5 | 158.2 | 78.79 |
| 1952 | .. | 35.7 | 45.6 | 71.0 | 120.8 | 64.9 | 102.6 | 75.34 |
| 1953 | .. | 21.7 | 64.6 | 66.7 | 116.7 | 63.8 | 127.3 | 71.54 |
| 1954 | .. | 29.5 | 37.2 | 52.5 | 110.4 | 64.3 | 68.1 | 59.66 |
| 1955 | .. | 12.2 | 36.7 | 45.0 | 106.9 | 47.7 | 43.6 | 51.60 |
| 1956 | .. | 9.3 | 27.8 | 38.8 | 96.0 | 34.7 | 21.5 | 44.02 |
| 1957 | .. | 10.8 | 27.0 | 37.1 | 89.7 | 42.2 | 49.1 | 42.94 |
| 1958 | .. | 27.9 | 46.2 | 40.3 | 89.7 | 40.7 | 38.0 | 45.81 |

Table 5

The main causes of death in infants and the rate per 1,000 live-births for each disease in 1958 and 1957 are set in the table which follows:—

| | | 1958 | | 1957 | | |
|--------------------------------|----|-------|----------------|-------|----------------|-------|
| | | Cases | Rate per Mille | Cases | Rate per Mille | |
| Congenital syphilis | .. | .. | 5 | 0.11 | 10 | 0.22 |
| Pneumonia and Bronchitis | .. | .. | 346 | 7.34 | 330 | 7.10 |
| Diarrhoea and Enteritis | .. | .. | 325 | 6.90 | 321 | 6.90 |
| Congenital Malformations | .. | .. | 156 | 3.31 | 112 | 2.41 |
| Diseases of Early Infancy | .. | .. | 928 | 19.70 | 857 | 18.43 |
| Tetanus | .. | .. | 8 | 0.17 | 3 | 0.06 |
| Beri-beri | .. | .. | 13 | 0.28 | 11 | 0.24 |
| Tuberculosis | .. | .. | 7 | 0.15 | 13 | 0.28 |
| Ill-defined and unknown causes | .. | .. | 162 | 3.44 | 153 | 3.29 |
| Other diseases | .. | .. | 209 | 4.37 | 187 | 4.02 |

Table 6
1958 INFANTILE MORTALITY ACCORDING TO RACE, SEX AND AGE GROUPS

| Race | Sex | AGE GROUP | | | | | | |
|-------------|-----------|------------|------------|------------|------------------------|------------|------------|--------------|
| | | 0-1 Day | 1-7 Days | 1-4 Weeks | 0-4 Weeks- 3 Months | 3-6 Months | 6-9 Months | 9-12 Months |
| Europeans | {M. F. | 7 4 | 3 1 | 1 3 | 11 8 | 2 | 1 1 | 12 12 |
| Eurasians | {M. F. | 1 3 | 1 3 | 1 3 | 2 6 | 1 2 | 1 1 | 4 10 |
| Chinese | {M. F. | 109 65 | 213 126 | 143 72 | 465 263 | 126 107 | 98 100 | 837 605 |
| Malays | {M. F. | 22 26 | 60 35 | 39 21 | 121 82 | 47 34 | 49 33 | 272 215 |
| Indians | {M. F. | 8 10 | 20 20 | 18 8 | 46 38 | 18 14 | 12 17 | 4 8 |
| Others | {M. F. | 2 1 | 5 1 | 2 1 | 9 3 | 3 1 | 2 1 | 16 5 |
| Total Races | {M. F. | 149 109 | 302 186 | 203 105 | 654 400 | 194 157 | 163 154 | 1,230 928 |
| Total | .. | 258 | 489* | 308 | 1,055* | 351 | 317 | 176 |
| | | | | | | | | 2,159* |

*Includes 1 Chinese sex unknown.

Table 7
NEO-NATAL RATES BY RACES AND SEX (1956-58)

| | 1958 | | | 1957 | | | 1956 | | |
|-----------|-------|---------|------------|-------|---------|------------|-------|---------|------------|
| | Males | Females | Both Sexes | Males | Females | Both Sexes | Males | Females | Both Sexes |
| Europeans | 24.02 | 19.37 | 21.81 | 5.35 | 5.49 | 5.42 | 6.21 | 6.25 | 6.23 |
| Eurasians | 14.49 | 36.59 | 26.49 | 22.47 | 7.84 | 18.02 | 21.16 | 22.22 | 21.60 |
| Chinese | 25.09 | 15.19 | 20.34 | 21.22 | 14.58 | 18.01 | 25.35 | 15.15 | 20.43 |
| Malays | 43.69 | 31.11 | 37.56 | 32.60 | 35.61 | 34.03 | 41.89 | 29.11 | 35.69 |
| Indians | 21.69 | 18.62 | 20.18 | 18.88 | 19.75 | 19.29 | 24.68 | 14.23 | 19.47 |
| Others | 31.25 | 12.20 | 22.47 | 39.41 | 32.61 | 36.18 | 9.17 | 9.48 | 9.53 |
| Total | 26.90 | 17.53 | 22.40 | 22.25 | 17.27 | 19.85 | 26.73 | 16.49 | 21.77 |

Table 8

The chief causes of the neo-natal deaths in infants in 1958 and 1957 are shown in the table which follows:—

| | | 1958 | | 1957 | |
|---|----|--------------|--------------------------|--------------|--------------------------|
| | | No. of Cases | % Total Neo-natal deaths | No. of Cases | % Total Neo-natal deaths |
| 1. Ill-defined diseases peculiar to early infancy and Immaturity .. | .. | 282 | 26.72 | 252 | 27.30 |
| 2. Birth Injuries .. | .. | 211 | 20.00 | 163 | 17.66 |
| 3. Post-natal asphyxia and atelectasis | .. | 130 | 12.32 | 147 | 15.93 |
| 4. Infection of new born .. | .. | 183 | 17.34 | 142 | 15.38 |
| 5. Haemolytic disease of new born | .. | 79 | 7.48 | 86 | 9.32 |
| 6. Other diseases of early infancy | .. | 12 | 1.13 | 15 | 1.63 |
| 7. Congenital malformations .. | .. | 97 | 9.19 | 66 | 7.15 |
| 8. Ill-defined and unknown causes | .. | 28 | 2.65 | 27 | 2.93 |
| 9. Congenital syphilis .. | .. | 3 | 0.28 | 4 | .43 |
| 10. Beri-beri .. | .. | .. | .. | 2 | .22 |
| 11. Septicæmia and Pyæmia .. | .. | 2 | 0.18 | 5 | .54 |
| 12. Tetanus .. | .. | 7 | 0.66 | 3 | .33 |
| 13. Other diseases .. | .. | 21 | 1.98 | 11 | 1.19 |
| Total .. | | 1,055 | | 923 | |

Table 9

CERTIFICATION OF DEATHS 1958

| By whom certified | Euro-peans | Eura-sians | Chinese | Malays | Indians | Others | Total |
|--------------------------|------------|------------|---------|--------|---------|--------|-------|
| Medical Practitioners .. | 63 | 52 | 4,353* | 505 | 396 | 54 | 5,423 |
| Inspecting Officers .. | .. | 5 | 967 | 492 | 103 | 6 | 1,573 |
| Coroner .. | 36 | 6 | 919 | 91 | 164 | 22† | 1,238 |
| Police Officers .. | .. | .. | 16 | 19 | 2 | 1 | 38 |
| Total .. | 99 | 63 | 6,255 | 1,107 | 665 | 83 | 8,272 |

*Includes 1 Chinese sex unknown.

[†]Includes 6 Race and sex unknown.

Table 10

In the table which follows are shown the percentage number of deaths in the causes of which were certified by Medical Practitioners, Inspecting Registrars and the Coroner, in the years 1949 to 1958:—

ANTI-MOSQUITO DEPARTMENT

I HAVE THE HONOUR to submit the report on the work of the Anti-Mosquito Department for the year 1958.

2. *Incidence of Malaria*

17 cases of Malaria within the City were reported. All these cases were thoroughly investigated and all were found to be imported cases either from Indonesia or the Federation of Malaya. The malaria death rate was .002 per thousand within the City Limits.

3. *Trapping of Adult Mosquitoes*

The 3 mosquito traps set in various parts of the City for the collection and identification of adult mosquitoes, continued to provide a valuable check on our malarial control measures. For details, see Appendix A.

4. *Larvæ Searching*

8,498 collections of mosquito larvæ were brought by the field staff to the departmental laboratory for identification. As in the past a close watch for breeding of *A. sundaicus* was kept on all boats brought into the Singapore and Kallang Rivers for repairs. No breeding was found in any of the boats. Appendix B is an analysis of 1,000 consecutive larval collections during the year showing the common breeding places within the City. Appendix C gives the total number of collections and the different vector species with their respective breeding places.

5. *Permanent Anti-Malarial Works*

The areas under permanent control were extended by the construction of 220 yards of concrete anti-malarial drains and the laying of 392 yards of subsoil pipe lines. In addition, 2,097 yards of worn-out anti-malarial drains were reconstructed with new materials. Details of permanent anti-malarial works are listed in Appendix D. Minor repairs to existing permanent anti-malarial works were carried out as and when required and details of these are given in Appendix E.

6. *Prawn Ponds in Kallang Basin*

Weekly inspections continued as in past years, to ensure that sluice gates were opened and algal growth in ponds removed. No breeding of *A. sundaicus* was found during the year.

7. *Kampong Sanitation*

Our existing kampong sanitation drains were regularly maintained by the Kampong Sanitation Labour Force. Drainage for 10 new standpipes was provided during the year and the damaged bases of 30 existing standpipes were reconstructed and new drainage established. For details of Kampong Sanitation Works, please see Appendix F.

8. *Maintenance*

Maintenance work by 10 gangs and 4 machine units, was continued in accordance with past practice. Five patrol gangs worked around the General Hospital, Tan Tock Seng Hospital, Kallang Basin, Tanjong Rhu, Siglap,

Katong and Geylang areas mainly to control the breeding of *A. sundaeicus*. Altogether 172,773 yards of concrete drains and 21,528 yards of earth drains were regularly maintained.

31,888 yards of concrete drains were daily cleansed satisfactorily by contract labour at a monthly cost of \$11,000. These drains were no longer functioning as anti-malarial drains. They served as sullage drains for developed areas. 5,388 baskets of tins and other water-bearing receptacles were collected and disposed of.

9. Larvicidal Works

(i) *Anti-Malarial Mixture*.—Altogether 103,302 gallons of anti-malarial mixture were used. To ensure that the anti-malarial mixture received was effective and according to specifications, regular field and laboratory tests were carried out. In several instances the mixture was found to be wanting. The supplier was warned and some adjustment had to be made to increase the toxic effect of the mixture.

Apart from the routine oiling, the department had to deal with many mosquito breeding places created through development of properties, damaged and blocked public and private roadside drains and the activities of squatters in kampongs.

Oiling was also carried out in the water-logged areas caused by the interference with drainage by the building of temporary dwellings in approved attap areas.

(ii) *Shell Malariol Emulsion*.—72 gallons were used in places where an oily larvicide was undesirable.

(iii) *Shell Malariol H.S.*.—305 gallons were used in fish and vegetable ponds in Sungei Whampoa and the Kallang Basin Areas.

(iv) *B.H.C. (Gammexane P. 520)*.—237 lb. were used against nuisance mosquito breeding in septic tanks and blocked concrete drains.

(v) *Kerosene with 5 per cent D.D.T.*.—6 gallons were used for barrier spraying and as an anti-fly measure.

(vi) *Benzine with 10 per cent D.D.T.*.—1,306 gallons were used along the margins of the reservoirs. Malaria vectors (*A. maculatus* and *A. letifer*) were found breeding in the creeks of MacRitchie Reservoir. Periodical oiling with D.D.T. in benzine had to be carried out by this department. The cost was recovered from the Water Engineer's Department.

(vii) *Dieldrex 15*.—37 gallons were used through the Swing-fog machines against adult mosquitoes.

10. Filling in of low-lying areas

The filling of the extensive tidal swamp at Kolam Ayer Lane was continued by controlled tipping by the City Cleansing Department.

11. Notices

43 notices under the Destruction of Mosquitoes Ordinance were served. The majority of these were served on building contractors.

12. Anti-fly Measures

Our oilers helped to carry out anti-fly measures on many occasions.

13. Training.

(i) Probationary Public Health Inspectors Lawson Wong, Yap Kim Seng and Ong Chow Keng were under training in the department on anti-mosquito measures and in the bionomics and taxonomics of Malayan mosquitoes.

(ii) Mr. Lawrence Png Boon Hee who was appointed as Probationary Supernumerary Laboratory Assistant was sent for training in the University of Malaya under Professor A. Sandosham, in all subjects pertaining to mosquitoes.

14. Layout Plans

484 layout plans from the Planning Officer, Singapore Improvement Trust, were referred for our opinion on the problem of drainage. In all cases the sites were inspected and comments given.

15. Staff

(i) This department lost the valuable and faithful services of Messrs. K. Muthucumaru and K. Narayanan. Mr. K. Muthucumaru is on leave prior to being medically boarded out of the City Council service with effect from 7th April, 1959. Mr. K. Narayanan was medically boarded out on 15th November, 1958. The post of Anti-Mosquito Inspector which he held is still vacant.

(ii) Dr. Ng See Yook was in charge of this department up to 23rd July, 1958 and was succeeded by Dr. Ling Ding Seng. With the abolition of the post of Deputy Health Officer, the Assistant Health Officer now deals directly with the City Health Officer in anti-mosquito control measures.

16. Labour

| | | | |
|--|-----|-----|-------|
| Authorised Labour Force | ... | ... | 607 |
| Average monthly strength in payroll | ... | ... | 567 |
| Percentage of shortage | ... | ... | 6% |
| No. of working days in 1958 | ... | ... | 313 |
| No. of man-days taken as sick leave | ... | ... | 5,526 |
| No. of man-days taken as annual leave | ... | ... | 3,307 |
| No. of man-days taken as public holidays | ... | ... | 6,733 |

420 different labourers took sick leave on at least one occasion during the year. This meant that 74.1 per cent of the total labour force went on sick leave at least once during the year. The average number of man-days lost per labourer on account of sickness was 9.7 days.

17. Miscellaneous

(i) This department encountered a great deal of difficulty in the control of mosquitoes in the Tanjong Rhu Reclamation Area. The non-provision of a tidal-gate at the outlet of the newly-constructed main drain along Tanjong Rhu Road turned adjoining low-lying area water-logged. The inadequate drainage was referred to the Government and the non-provision of tidal-gate to the City Engineer's Department requesting them to take appropriate measures to improve the drainage condition.

(ii) A close liaison was maintained with the Rural Health Authorities, the Harbour Board, the Malayan Railways Authorities and the Army Department, all concerned with the control of mosquito breeding.

(iii) Due to the development of an area by a private person at Dyson Road about 110 yards of the existing concrete anti-malarial drain was illegally backfilled. Summary action was taken against the developer who was fined \$200 and was ordered to expedite development.

(iv) In the month of April, due to the complete destruction by fire of a Kampong at Lorong 3, Geylang, hundreds of people were rendered homeless. They were temporarily housed at the Geylang English School. In a week's time, the infestation of flies, mosquitoes and other pests had increased to

such a magnitude that this department was called upon to carry out intensive fogging operations with "Dieldrex 15" to kill the pests. The fogging operation was a great success.

(v) This department participated actively in the Anti-Litter and Anti-Pest Exhibitions held at the Victoria Memorial Hall. Some staff also volunteered in the distribution of pamphlets for the Mass Health Movement to the public in various areas of the City.

(vi) In December, Medical Officers from the Rural Health Department and the Assistant Health Officer (A.M.D.) discussed the taking over of the City Extension at Pasir Panjang, Ulu Pandan and Bukit Timah areas (totalling $11\frac{1}{2}$ sq. miles) and the handing over of Katong (part) and Serangoon (part) areas (totalling $3\frac{1}{2}$ sq. miles) to the respective District Councils.

(vii) The cost of malaria control per head of population within the City Limits was \$1.13 for the year.

SUMMARY OF WORKS AND COSTS FOR 1958

| Particulars | Labour | MATERIALS | | | | Total |
|--|------------|-----------|----------|-----------|--------------|--------------|
| | | Mason | Machine | Larvicide | | |
| | | \$ c. | \$ c. | \$ c. | \$ c. | |
| Major Works including $\frac{1}{3}$ cost of Store Labour .. | 145,557 80 | 37,132 44 | .. | .. | .. | 182,690 24 |
| Patrol Works including Tidal-Gate Labourers .. | 141,238 49 | .. | .. | .. | .. | 141,283 49 |
| MAINTENANCE | | | | | | |
| 1. Grass cutting, cleansing drains, including hire and benzine .. | 332,805 50 | .. | 4,211 73 | .. | .. | 337,017 23 |
| 2. Larvical works, trappers, oiling checkers and $\frac{1}{3}$ cost of Store Labour .. | 114,873 17 | .. | .. | 66,885 88 | .. | 181,759 05 |
| 3. Repairs including $\frac{1}{3}$ cost of Store Labour .. | 46,360 42 | 33,563 39 | .. | .. | .. | 79,923 81 |
| 4. Cleansing of drains by Contract Labour .. | 132,000 00 | .. | .. | .. | .. | 132,000 00 |
| Total .. | 912,835 38 | 70,695 83 | 4,211 73 | 66,885 88 | 1,054,628 82 | |
| Cost of Haulage .. | .. | .. | .. | .. | .. | 27,864 73 |
| Grand Total .. | .. | .. | .. | .. | .. | 1,082,493 55 |

I have the honour to be,
Sir,
Your obedient servant,

LING DING SENG, M.B.B.S., D.P.H.,
Assistant Health Officer (A.M.D.).

Mosquito traps were set in the following areas with the results indicated below:—

| Locality | No. of Nights | <i>A. mac.</i> | <i>A. sund.</i> | <i>A. letifer</i> | Other Anophel. | Others | Total |
|--------------------|---------------|----------------|-----------------|-------------------|----------------|--------|--------|
| Dunman Road | .. 42 | Nil. | Nil. | Nil. | 1 | 574 | 575 |
| Kolam Ayer Lane | .. 63 | Nil. | Nil. | Nil. | 9 | 849 | 858 |
| Towner Road | .. 48 | Nil. | Nil. | Nil. | 1 | 522 | 523 |
| Guillemard Road | .. 21 | Nil. | Nil. | Nil. | 2 | 308 | 310 |
| Goodman Road | .. 25 | Nil. | Nil. | Nil. | 2 | 297 | 299 |
| Tanjong Rhu Area | .. 94 | Nil. | Nil. | Nil. | 1 | 1,374 | 1,375 |
| Kampong Bugis | .. 8 | Nil. | Nil. | Nil. | .. | 99 | 99 |
| St. Georges Road | .. 70 | Nil. | Nil. | Nil. | .. | 1,071 | 1,071 |
| Middleton Hospital | .. 22 | Nil. | Nil. | Nil. | .. | 182 | 182 |
| Soon Wing Road | .. 91 | Nil. | Nil. | Nil. | 23 | 1,562 | 1,585 |
| Serangoon Road | .. 48 | Nil. | Nil. | Nil. | 3 | 798 | 801 |
| St. Francis Road | .. 84 | Nil. | 2 | Nil. | .. | 1,007 | 1,009 |
| Beng Wan Road | .. 35 | Nil. | Nil. | Nil. | 5 | 466 | 471 |
| Potong Pasir Road | .. 35 | Nil. | Nil. | Nil. | .. | 371 | 371 |
| Katong Park | .. 63 | Nil. | Nil. | Nil. | 6 | 867 | 873 |
| Aljunied Road | .. 35 | Nil. | Nil. | Nil. | 10 | 613 | 623 |
| Bendemeer Area | .. 35 | Nil. | Nil. | Nil. | 9 | 747 | 756 |
| Topez Road | .. 35 | Nil. | Nil. | Nil. | 39 | 506 | 545 |
| | .. | Nil. | 2 | Nil. | 11 | 12,213 | 12,326 |

2 *A. sundaeicus* and 107 other Anopheline females were trapped. In addition 12,213 adult mosquitoes were identified. Daily reports on adult catches were forwarded to the D.A.D.A.H., Headquarters Singapore Base District for information as requested.

15th January, 1959.

P. V. SAMUEL,
Laboratory Assistant (A.M.D.).

1,000 consecutive collections from common breeding places:—

| | | |
|----------------------------|----|-------------|
| Roadside concrete drain | .. | 190 |
| Sullage concrete drain | .. | 28 |
| Sullage earth drain | .. | 3 |
| Concrete drains | .. | 109 |
| Earth drain | .. | 64 |
| Sewage excavations | .. | 2 |
| Trench | .. | 2 |
| Excavation for scrap metal | .. | 12 |
| Stagnant pools | .. | 165 |
| Grassy pools | .. | 46 |
| Seepages | .. | 5 |
| New building excavation | .. | 36 |
| Lorry tracks | .. | 6 |
| Vegetable ponds | .. | 27 |
| Fish ponds | .. | 3 |
| Ponds | .. | 29 |
| Hyacinth ponds | .. | 4 |
| Swimming pools | .. | 2 |
| Water Storage Tank | .. | 1 |
| Buffalo Wallow | .. | 1 |
| Sump pits | .. | 6 |
| Earth wells | .. | 18 |
| Concrete wells | .. | 7 |
| Concrete holes | .. | 7 |
| Septic tanks | .. | 8 |
| Concrete tanks | .. | 11 |
| Water stop cock pits | .. | 17 |
| Sewage manhole covers | .. | 6 |
| Boats | .. | 17 |
| Steel pipe joints | .. | 2 |
| Disused tins | .. | 67 |
| Disused drums | .. | 36 |
| Disused jars | .. | 24 |
| Disused tyres | .. | 29 |
| Disused bucket | .. | 1 |
| Coconut shells | .. | 1 |
| Filters | .. | 1 |
| Concrete tubs | .. | 4 |
| W.C. water tank | .. | 1 |
| Iron tubs | .. | 2 |
| Total | .. | <hr/> 1,000 |

P. V. SAMUEL,
Laboratory Assistant (A.M.D.).

8,498 collections of mosquito larvae were brought to the laboratory for identification. 2 of them contained larvae of *Anopheline sundaiicus*, 8 contained larvae of *Anopheline maculatus* and 1 contained larvae of *Anopheline letifer*. The other 8,487 collections did not contain larvae of malaria vectors.

The types of breeding places in which the larvae of malaria vectors were found were as follows:—

| <i>A. sundaiicus</i> | | <i>A. maculatus</i> |
|---|---------|------------------------------------|
| Earth drain .. | .. 1 | <i>In Singapore</i> |
| Stagnant pool .. | .. 1 | Earth Well 1 |
| | <hr/> 2 | |
| <i>A. letifer</i> | | <i>In Gunong Pulai Water Works</i> |
| Edge of creek in MacRitchie Reservoir 1 | | Pool in Estate Ravine .. 3 |
| | | Estate Reservoir .. 2 |
| | | Water tank in Estate .. 2 |
| | | <hr/> Total 8 |

P. V. SAMUEL,
Laboratory Assistant (A.M.D.).

15th January, 1959.

APPENDIX D

PERMANENT ANTI-MALARIAL WORKS CARRIED OUT DURING 1958

| Area No. | Anti-Malaria Area | MATERIALS USED | | | | | | | | | | | | | | | Labour Cost | Material Cost | Remarks | | | | | | | |
|----------|---------------------------|----------------|----|-----|----|-----|-------|-----|-----|----------------|-----|-------|-----|-----|----|-------|-------------|---------------|----------|---|----|-----------|-----------|---|--|--|
| | | INVERTS | | | | | SLABS | | | SUB-SOIL PIPES | | | | | | | | | | | | | | | | |
| | | 21" | | 18" | | 15" | | 12" | | 9" | | 18" | | 15" | | 12" | | | | | | | | | | |
| | | N | R | N | R | N | R | N | R | N | R | N | R | N | R | N | R | | | | | | | | | |
| 7 | Glencaird .. | 290 | 50 | .. | .. | .. | .. | .. | .. | 2,000 | 100 | .. | .. | .. | .. | .. | .. | \$ 10,303 83 | 3,908 30 | Re-construction of the drain concrete Anti-Malaria Drain was completed. | | | | | | |
| 50 | Tanglin Barracks No. 1 .. | 1,155 | .. | 10 | .. | .. | .. | 10 | .. | 55 | .. | 3,850 | .. | 696 | .. | 1,300 | .. | 5 | .. | 160 | .. | 29,904 83 | 11,966 00 | Re-construction of the drain concrete Anti-Malaria Drain. Work in progress. | | |
| 101 | MacPherson Road .. | 107 | .. | 230 | .. | .. | .. | 82 | .. | .. | .. | 1,514 | 147 | 19 | .. | 76 | .. | 336 | .. | 735 | .. | 104 | 100 | 64,317 03 | 5,663 74 | The Main concrete Drain and the Subsidiary drain, bounded by Upper Serangoon Road, Upper Aljunied Road, Sennett Estate and Bidadari Cemetery were completed. |
| 107 | Wayang Satu .. | 814 | .. | 440 | .. | .. | .. | 175 | .. | .. | .. | 6,616 | .. | .. | .. | 476 | .. | 10 | .. | 134 | .. | .. | .. | 32,828 85 | 15,014 55 | Re-construction of the main concrete Anti-Malaria Drain from Mt. Pleasant to Dunearn Road and the subsidiary drain near Malcolm Road. Work in progress. |
| 134 | Bendemeer .. | .. | .. | .. | .. | .. | .. | 40 | 252 | 55 | .. | 600 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2,050 25 | 1,110 86 | The re-construction of the subsidiary concrete Anti-Malaria Drain was completed. | |

DETAILS OF REPAIRS CARRIED OUT TO THE EXISTING ANTI-MALARIAL WORKS (1958)

MATERIALS USED

Anti-Malarial Area

DETAILS OF REPAIRS CARRIED OUT TO THE EXISTING ANTI-MALARIAL WORKS (1958)—*continued*

MATERIALS USED

APPENDIX F

KAMPONG SANITATION, 1958

| | MATERIALS USED | | | | | | | | | | Labour Cost | Materials Cost | Remarks | Distribution of maintenance Gang | | |
|--------------------------|----------------|-----|-----|-----|-----|-------|-----|-----|-----|-----|-------------|----------------|-----------|--|--|--|
| | INVERTS | | | | | SLABS | | | | | | | | | | |
| | 21" | 18" | 15" | 12" | 9" | 18" | 15" | 12" | 8" | 6" | 4" | MISCELLANEOUS | | | | |
| <i>South</i> | | | | | | | | | | | | | | | | |
| Kampong Silat | ... | ... | ... | 460 | 180 | 120 | 10 | 250 | ... | ... | ... | | 21,494 15 | 1,714 12 | | |
| Kampong Silat (S.I.J.) | ... | ... | ... | ... | 30 | 10 | ... | ... | ... | ... | ... | | 1,498 95 | 68 24 | | |
| Kampong Mount Washington | ... | ... | ... | 165 | 60 | 70 | 5 | ... | ... | ... | ... | | 3,764 45 | 559 60 | | |
| Kampong Alexandra | ... | ... | 40 | ... | 55 | 35 | 40 | 10 | ... | ... | ... | | 3,415 90 | 367 55 | | |
| Kampong Bukit Permei | ... | ... | ... | ... | 20 | 10 | ... | 15 | ... | ... | ... | | 1,507 55 | 68 12 | | |
| <i>North</i> | | | | | | | | | | | | | | | | |
| Kampong Geylang Serai | ... | ... | ... | 20 | 20 | 40 | ... | ... | ... | ... | ... | | 24,806 05 | 244 60 | | |
| Kampong Amber | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | 2,433 45 | .. | | |
| <i>North</i> | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | St and Pipes | | | | |
| | | | | | | | | | | | | .. | .. | .. | | |
| | | | | | | | | | | | | | 348 30 | 191 31 | | |
| | | | | | | | | | | | | | | Construction of Stand Pipes washing Basins | | |

plus 1 mandore
1 mandore
2 labourers
2 labourers
1 labourer

12 labourers
1 labourer
2 labourers
2 labourers
1 labourer

1 Mandore and 18
labourers

CITY COUNCIL OF SINGAPORE
ANNUAL REPORT ON THE CITY ANALYST'S DEPARTMENT FOR
THE YEAR 1958

THE WORK OF THE Analyst's Department consists in giving scientific advice and in carrying out the necessary chemical analyses for all the departments of the City Council. This work continued to increase during the year 1958 when a total number of 30,293 samples were examined, an increase of 1,859 samples over the number examined the previous year. This represents an increase of 6.5 per cent. The samples were submitted by the departments of the City Council, and includes also a large number sent in by commercial firms. The samples can be classified according to their source of origin as follows:—

| | | | No. of samples examined |
|--|-------|-----|----------------------------|
| Water Department | ... | ... | 20,354 |
| Gas Department | ... | ... | 783 |
| Electricity Department | ... | ... | 1 |
| Engineer's Department— | | | |
| Sewerage Section | ... | ... | 3,733 |
| Sanitary Section | ... | ... | 1 |
| Stores and Workshops | ... | ... | 101 |
| Architect and Building Surveyor's Department | ... | ... | 2,471 |
| Health Department | ... | ... | 1,181 |
| Veterinary Department | ... | ... | 2 |
| Secretariat | ... | ... | 10 |
| Commercial firms | ... | ... | 1,656 |
| | | | <hr/> |
| | Total | ... | 30,293 |

A general indication of the nature of the samples examined and of the diverse consultative and advisory work carried out for the various departments of the Council is given below.

WATER DEPARTMENT

The following samples were analysed for the Water Department:—

| | | |
|--|-----|----------------|
| Water samples taken at various stages during treatment | ... | 12,296 samples |
| Water from camp supplies | ... | 1,485 .. |
| Raw water | ... | 2 .. |
| Treated water from Clear Water Tanks | ... | 46 .. |
| Water for fluorine test | ... | 5,367 .. |
| Water from mains, taps, etc. | ... | 24 .. |
| River water after micro-screening | ... | 130 .. |
| Deposits, sediments, and sludges | ... | 6 .. |
| Earth | ... | 3 .. |
| Water-treatment chemicals, etc. (sulphate of alumina, hydrated lime, sodium silicofluoride, sterilizing tablets) | | 61 .. |
| Urine for fluorine test | ... | 299 .. |
| Indicator solutions | ... | 323 .. |
| Galvanised pipes | ... | 4 .. |
| | | <hr/> |
| <i>Carried forward</i> | ... | 20,046 .. |

| | | | |
|--|------------------------|--------|---------|
| | <i>Brought forward</i> | ... | 20,046 |
| Tar, bitumen compound, and joint-sealing compounds | ... | 8 | samples |
| Welding machine oil | ... | 2 | " |
| Boiler scale | ... | 1 | sample |
| Boiler water | ... | 297 | samples |
| | <i>Total</i> | 20,354 | " |

The water supply of Singapore is derived partly from Johore and partly from the island itself. The water undergoes full chemical treatment at four works, two in Johore and two on the island. The treatment used at Tebrau Works over the greater part of the year was that employing "activated silica" in conjunction with small doses of lime and alum. At the other three works at Gunong Pulai, Bukit Timah and Woodleigh the conventional lime-alum treatment was used. The excellent chemical quality of the water was maintained throughout the year. The average figures of the daily tests on raw waters and treated waters, and those of the monthly tests on clear water tank samples are given in Tables A, B and C respectively.

The addition of fluorine to the water supply was carried out at the four works throughout the year. This was adopted as a health measure to reduce the incidence of dental caries amongst growing children. The treated water contains 0.7 part per million of fluorine.

Experiments were carried out on the effectiveness of micro-mesh screens in removing turbidity from Tebrau River water. These screens were intended to be used on the river water to be pumped into the proposed enlarged Peirce Reservoir, but the use of the screens have now been abandoned.

The residual chlorine content of the water at several points along the Johore pipe-line from Gunong Pulai to Tampoi was determined on two occasions. There was a steady fall of residual chlorine of about 0.02 part per million per mile of main, and the appropriate chlorine dose to be applied at Gunong Pulai was accordingly calculated.

Comparison tests were carried out on several bitumen compounds to find their suitability for use as lining for water tanks. One proprietary brand was found to impart very little smell to water.

Boiler water from the pumping station at Woodleigh was regularly examined. The condition of the water was satisfactory throughout the year.

GAS DEPARTMENT

The following samples were analysed:—

| | | | | | | |
|---|--------------|-----|-----|-----|-----|---------|
| Boiler water | ... | ... | ... | ... | 388 | samples |
| Circulating water from oil gas plant | ... | ... | ... | ... | 360 | " |
| Soda ash | ... | ... | ... | ... | 1 | sample |
| Coke | ... | ... | ... | ... | 1 | " |
| Oil gas tar | ... | ... | ... | ... | 18 | samples |
| Coal tar | ... | ... | ... | ... | 1 | sample |
| Naphthalene content of City gas | ... | ... | ... | ... | 4 | samples |
| Iron oxide | ... | ... | ... | ... | 3 | " |
| Scale, and deposit | ... | ... | ... | ... | 2 | " |
| Centrifuged pump plate and scrapings from impeller blade | ... | ... | ... | ... | 2 | " |
| Reagents (iodine solution, ethylmercaptan and salicylic acid) | ... | ... | ... | ... | 3 | " |
| | <i>Total</i> | 783 | " | | | |

The City Gas Works have in the past been supplying coal gas to the City, but during 1958 a new plant producing oil gas was in operation. The plant produces this gas by the catalytic degradation of fuel oil. Because of this change the nature of the samples received was somewhat different from that of previous years.

The number of boiler water samples examined averaged more than one sample a day; this was because two boilers were in operation towards the latter part of the year. Circulating water from the oil gas plant was also examined in large numbers to ascertain its corrosiveness towards the centrifugal pumps used in the plant.

Experiments were carried out on oil gas tar, produced as a byproduct, to find ways of removing its water content to render it suitable for use as wood preservative.

One sample of scale taken from a cast-iron gas main was found to contain naphthalene and cyanogen compounds. A deposit from a condenser box was found to consist mainly of iron rust.

ELECTRICITY DEPARTMENT

One sample of lead cable sheathing was examined for the Electricity Department. The sample was found to have suffered extensive corrosion because of wetting with water containing lime in solution. There was also evidence of leakage of current through the hessian layer of the cable.

ENGINEER'S DEPARTMENT

Sewerage Section

The following samples were analysed:—

| | | | |
|--|-----|-------|---------|
| Routine sewages, effluents, top-waters and sludges | ... | 3,005 | samples |
| Septic tank samples | ... | 636 | .. |
| River water | ... | 82 | .. |
| Hydrogen sulphide content of effluent | ... | 6 | .. |
| Liquid | ... | 1 | sample |
| Sand | ... | 1 | .. |
| Cast-iron pipe | ... | 1 | .. |
| Diaphragm of pressure gauge | ... | 1 | .. |
| | | | |
| Total | ... | 3,733 | samples |

Routine examination of sewage samples from the two sewage disposal works run by the City Council, one at Alexandra Road and the other at Kim Chuan Road, was carried out regularly throughout the year. At the Alexandra Road Works the sewage is treated on percolating filter beds and the effluent discharges into Singapore River. At the Kim Chuan Road Works the activated sludge process is used and the effluent discharges into Serangoon River. The average results and ranges of the effluents are given in the following table:—

AVERAGE ANALYSIS OF SEWAGE WORKS EFFLUENT
(in parts per million)

| | ALEXANDRA ROAD WORKS EFFLUENT | | KIM CHUAN ROAD WORKS EFFLUENT | |
|----------------------------|-------------------------------|----------|-------------------------------|-----------|
| | Average | Range | Average | Range |
| Free and Saline Ammonia | 14.0 | 5.6/21.6 | 23.9 | 14/32 |
| Albuminoid Ammonia | 3.4 | 0.8/8.0 | 6.1 | 4/12 |
| Oxygen Absorbed in 4 hours | 13.6 | 4.9/21.1 | 28.7 | 17.5/60.3 |
| Biochemical Oxygen Demand | 29.1 | 7.1/54.1 | 63.7 | 18.8/120 |
| Total Solids | 629 | 176/2028 | 543 | 288/1484 |
| Suspended Solids | 31 | 9/66 | 34 | 10/83 |
| Nitrates (as N) | ... | ab./ab. | absent | ab./ab. |
| Chlorides (as Cl) | 251 | 65/900 | 168 | 70/570 |
| pH | 7.35 | 7.1/7.5 | 7.3 | 7.0/7.5 |

The results for the Alexandra Road Works effluent show a further deterioration in quality over the results for 1957 (Oxygen Absorbed in 4 hours 13.3, B.O.D. 27.5, Suspended Solids 28). It is noteworthy that nitrates were not found in any sample examined during the year. The Kim Chuan Road Works effluent improved slightly but the strength during 1958 was about twice that of the Alexandra Road effluent.

The hydrogen sulphide content of the effluent from Kim Chuan Road Sewage Disposal Works was determined and found to be around 1 part per million by weight. The concentration of this gas in the atmosphere of the outfall conduit ranged between 2 and 7 p.p.m. by volume.

The Sewerage Section also looks after a number of small sewage purification plants, mostly private installations in unsewered areas. Regular samples were taken from these plants for analysis, and during the year 636 samples were analysed. The effluents from these plants were generally of good quality, and the average results in parts per million are as follows:—

| | | |
|----------------------------|-----|-------------|
| Free and Saline Ammonia | ... | 22.5 p.p.m. |
| Albuminoid Ammonia | ... | 5.1 p.p.m. |
| Oxygen Absorbed in 4 hours | ... | 18.3 p.p.m. |
| Suspended Solids | ... | 40.3 p.p.m. |
| Chlorides | ... | 27.3 p.p.m. |
| Nitrates | ... | 2.5 p.p.m. |

One sample of the diaphragm of a pressure gauge attached to a nightsoil main was analysed for the cause of corrosion. This was found to be due to the diaphragm being plated with lead, which was not resistant to hydrogen sulphide present in the nightsoil.

River waters taken from the rivers and canals maintained by the City Council were examined regularly throughout the year. The rivers were generally found to be in poor condition, containing a large amount of polluting material and deficient in dissolved oxygen content. In October 1958, the Health Committee authorised the carrying out of a comprehensive survey of the rivers with a view to finding ways of improving their condition. These investigations are continuing.

Sanitary Section

One sample of plastic tiling which is to be used by direct surface application was examined for porosity and resistance to acids. The sample was found to be satisfactory in these respects.

Stores and Workshops

The following samples were analysed:—

| | | | | | |
|------------------------------------|-----|-----|-----|-----------|-------------|
| Water | ... | ... | ... | ... | 2 samples |
| Sand | ... | ... | ... | ... | 4 " |
| Soap | ... | ... | ... | ... | 10 " |
| Soda ash | ... | ... | ... | ... | 1 sample |
| Washing soda | ... | ... | ... | ... | 1 " |
| Boiler water | ... | ... | ... | ... | 80 samples |
| Boiler scale and deposit | ... | ... | ... | ... | 2 " |
| Chemical reagent (phenolphthalein) | ... | ... | ... | ... | 1 sample |
| | | | | Total ... | 101 samples |

The sand samples were submitted for British Standard Specification tests. The soap, soda ash and washing soda were examined to ascertain the best product. The boiler water from the boiler at the Trafalgar Street Stone Crushing Depot was examined regularly to ensure absence of scale-forming material.

ARCHITECT AND BUILDING SURVEYOR'S DEPARTMENT

The following samples were analysed:—

| Swimming pool water— | | | | 9 samples |
|-------------------------------------|-----|-------|-------|-----------|
| from Mount Emily Pool | ... | ... | ... | |
| from Yan Kit Road Pool | ... | ... | 1.184 | .. |
| from Farrer Park Pool | ... | ... | 1.188 | .. |
| Van Kleef Aquarium water | ... | ... | 86 | .. |
| Reinforced concrete for composition | ... | ... | 4 | .. |
| | | | | — |
| | | Total | ... | 2,471 .. |
| | | | | — |

During the greater part of the year Mount Emily Pool was closed for reconstruction and very few samples were received from this pool. The water from the other two pools were regularly tested; the good condition of the water was maintained throughout the year.

Samples of salt and fresh water from Van Kleef Aquarium were also received for examination.

Four samples of reinforced concrete taken from the new swimming pool at King George V Park were examined to determine the cement; sand; granite ratio.

HEALTH DEPARTMENT

1,181 samples were received from the Health Department. These consisted mainly of samples taken in connection with the licensing of food factories and in the enforcement of the Sale of Food and Drugs Ordinance.

The number of formal samples received under the Sale of Food and Drugs Ordinance was 749, of which 184 were found to be adulterated, below standard or otherwise defective, and appropriate certificates were issued for these samples. The proportion of unsatisfactory samples was 24.6 per cent as compared to 17.8 per cent for 1957. Details of the adulteration and other irregularities found are given in Table D.

Routine tests were done regularly on samples of food and beverages manufactured locally in premises licensed by the Health Officer. These samples were tested for compliance with standards, metallic contamination, saccharin and prohibited preservatives.

Other samples analysed include anti-malarial oils, face-powders, eye-shadows, well-water and samples of industrial hygiene interest.

The range and variety of the samples examined are given in the following list:—

Food (1,002 samples)

| | | | | | |
|---|-----|-----|-----|-----|-----|
| Milk and milk products (including milk, evaporated milk, malted milk, whey powder, buttermilk powder, skimmed milk powder, powdered milk, sweetened condensed milk, butter, cheese, modified milk powders for infant feeding) | ... | ... | ... | ... | 229 |
| Beverages (including soda water, aerated water, ice-cream, blackcurrant juice, fruit juice concentrates, soursop juice, syrups, cordials, chocolate milk, tea, coffee, coffee mixtures, perry, champagne, brandy, whisky, rum, stout) | ... | ... | ... | ... | 487 |
| Spices (including chilli powder, cloves, coriander, cumin, mustard, pepper, and star aniseed) | ... | ... | ... | ... | 73 |
| Condiments (including soya bean sauce, tomato sauce, artificial vinegar, black vinegar, rice vinegar, malt vinegar) | ... | ... | ... | ... | 47 |

| | | | |
|---|-----|-----|----|
| Food essences and food colours ... | ... | ... | 4 |
| Cooking oils and fats ... | ... | ... | 22 |
| Canned food (bean paste, bran dough, bamboo shoot, fish, flat fish, dace, croaker, green peas, lettuce, luncheon meat, mushrooms, mixed pickles, preserved bean curd, leeks, soya beans, stewed clams, stewed eel, stewed pork, salted beans, salted vegetable, taro pudding) ... | ... | 43 | |
| Fresh fruits ... | ... | ... | 52 |
| Other foods (beef, bean cake, gelatine, honey, jam, pig's stomach, potatoes, smoked ham, sugar, sweets, wheat flour) ... | ... | ... | 45 |
| <i>Drugs (131 samples)</i> | | | |
| B.P. and B.P.C. drugs ... | ... | ... | 62 |
| Patent medicines and native medicines ... | ... | ... | 69 |

B.P. and B.P.C. drugs examined included aspirin, A.P.C. tablets, aneurine hydrochloride tablets, boric acid powder, eucalyptus oil, ferrous sulphate tablets, glycerine, hydrogen peroxide, liquid paraffin, quinine ethyl carbonate, quinine bisulphate, tincture gentian, tincture of ipecacuanha, tincture of iodine, and vitamin C tablets.

Other samples (48 samples)

| | | | | |
|--|-----|-----|-----|----|
| Anti-malarial oil ... | ... | ... | ... | 7 |
| Cosmetics (face-powder, "chilla-mata" eye-shadow, eye-brow pencils) ... | ... | ... | ... | 33 |
| Hazardous materials used in industry (lead compound, alloy, unknown substance, thinner for paints) ... | ... | ... | ... | 4 |
| Well-water ... | ... | ... | ... | 4 |

158 samples of fresh milk sold by itinerant vendors were examined and 20 were found to be below standard, which is 12.7 per cent of the number submitted. 201 samples of coffee powder and coffee mixture were analysed and approximately 35 per cent of these samples were found to contain less than the required amount of coffee.

Vendors are apparently still not aware of the new Food and Drugs Regulation relating to spices—these may not contain any added material. Out of 30 samples of coriander powder examined 26 were found to contain ground rice which was added as adulterant.

A large variety of canned goods from China were examined. In general these were of fairly good quality.

Several samples of "Chilla Mata", an eye-shadow widely used by the Malay community, were examined and found to contain large amounts of lead, mainly in the form of the sulphide. The sale of such lead-containing cosmetics is prohibited by the Food and Drugs Regulations.

The City Analyst is a member of the Food and Drugs Sub-Committee of the Medical Advisory Council. This Committee met several times during the year to revise the Food and Drugs legislations.

VETERINARY DEPARTMENT

One sample of veterinary hypnotic was analysed for its pentobarbitone content. One sample of dog faeces was examined for poisons.

SECRETARIAT

Ten lots of "Copy-rapid" Developer solution were prepared for the Secretariat.

COMMERCIAL FIRMS

A total of 1,656 samples were received and reported on. The samples may be classified as follows:—

| | | | | |
|--------------------------------|-----|-----|-------|-------------|
| Essential oils | ... | ... | ... | 121 samples |
| Vegetable oils | ... | ... | ... | 214 .. |
| Ores | ... | ... | ... | 12 .. |
| Local produce | ... | ... | ... | 445 .. |
| Food | ... | ... | ... | 286 .. |
| Drugs | ... | ... | ... | 21 .. |
| Chemicals | ... | ... | .. | 52 .. |
| Fertilizers and feeding stuffs | .. | ... | .. | 10 .. |
| Metals and alloys | ... | ... | ... | 20 .. |
| Building materials | ... | ... | ... | 11 .. |
| Fuels and petroleum products | ... | ... | .. | 41 .. |
| Swimming pool waters, etc. | ... | ... | .. | 319 .. |
| Damaged goods | ... | ... | .. | 15 .. |
| Miscellaneous | ... | ... | .. | 89 .. |
| | | | | _____ |
| Total | ... | | 1,656 | .. |

A larger number of samples of patchouli oil were analysed as compared to 1957. The market in this commodity would seem to have shifted back to Singapore, probably from Penang.

In December 1958, illipenuts again began to come in for analysis. These nuts are exported from Borneo and the trees are believed to bear fruit once in several years. The last occasion when these nuts were received in large numbers was in May 1954.

The Analyst's Department analyses swimming pool water for several social clubs in Singapore. One seamen's club and two Royal Air Force stations also send in regular samples of swimming pool water for testing.

Tests were carried out on several samples of lead cable sheathing, water and concrete ducting in connection with corrosion problems arising from the use of lead-protected cables.

Several samples of sewage were received from the Singapore Improvement Trust. These samples were taken from their purification plant in an estate in the rural area.

Requests for advice on water supply and water treatment were received from several places overseas, including British North Borneo, Brunei and Sarawak.

The full range of the samples examined for commercial firms is given in the following lists:—

Essential oils.—Canaga, citronella, nutmeg, patchouli.

Vegetable oils.—Palm, coconut, sesame, groundnut, mustard.

Ores.—Ores of iron, copper, lead, manganese; copper sulphide, galena, ilmenite, iron pyrites.

Local produce.—Jelutong, centrifuged latex, rubber powder, gum benjamin, cube gambier, mangrove bark, kapok seeds, nutmeg, derris root, illipenuts, palm kernels, palm kernel cake and meal, copra cake, copra chips, soap.

Food.—Fresh milk, reconstituted milk, "creamy" milk, ice-cream mix, snow cream, sweetened condensed milk, milk powder, "Economilk", frozen milk, cheese, soft drinks, tea, blackcurrant syrup, pineapple juice and chunks, wheat flour, soya bean powder, tapioca flour, pearl sago.

sugar, sweets, beef tallow, vegetable fat, monosodium glutamate, essence of chicken, sauce, salt, tomato ketchup, biscuits, beef sausages, curry chicken, dried clam meat.

Drugs.—Chinese medicine, tri-sulphonamide suspension, sulphonamide tablets, vitamin B1 tablets, and several proprietary medicines.

Chemicals.—Formic acid, rubber coagulating acid, hydrated lime, caustic soda, caustic potash, weak lye solution, anhydrous ammonia, carbon dioxide gas, nitrous oxide gas, “arcton” gas, sulphate of alumina, ammonium sulphate, sodium chloride, sodium phosphate crystals, micro-calcite, calcium chloride, bromothymol blue, ortho-tolidine solution, unknown chemical compound.

Fertilizers and feeding stuffs.—Rock phosphate, bat guano, fish meal, shell fragments, chicken and turkey feeds.

Metals and alloys.—Copper, refined tin, gold, aluminium, gunmetal borings, brass ingots scrap, tin clippings scrap.

Building materials.—Cement, concrete, cement paint, sand, oil-tempered hardboard.

Fuels and petroleum products.—Fuel oil, lubricating oil, petroleum spirit, diesel oil, coal, anthracite.

Swimming pool waters, etc.—Pool water, ground water, raw water, well-water, sea-water, treated water, drinking water, wash water, sewage effluent, sludge and top-water.

Damaged goods.—Crepe rubber, blankets, grass, galvanised corrugated iron sheet, cigarette carton, wheat flour, electrolytic tinplate waste, cotton textile, copra cake, gunny sacking, canned meat.

Miscellaneous.—Deposits, lead cable sheathing, concrete ducting, boiler sludge, debris, sediment, scale deposits, pressure joints, galvanised wire, china clay, soil, leather and rubber shoe parts, thread, textile, aluminium paint, face powder, face cream, medicated cream, liquid styrax, urine, serum, spirit, turpentine, gum spirit, air, oil-extracted rice bran.

STAFF

With the opening of the Singapore Polytechnic in November 1958, one member of the laboratory staff took advantage of the day release concession granted by the City Council and two others of the evening class facilities to further their knowledge of Chemistry.

Mr. T. A. Spillane, City Analyst, left Singapore on 27th September, 1958, prior to leaving the service of the City Council. He has been with the Department for 11 years. We are sorry to lose him and we wish him all the best in his future career.

As Deputy Analyst it was my privilege to act in the absence of the City Analyst. I wish to place on record the co-operation accorded me by the staff, without which the volume of work could not have been accomplished. Special mention should be made of those members in the Subordinate Division, who, in spite of their deficiencies in scientific training, have been most cheerful and willing in carrying out the exacting duties which are demanded by the strict discipline of Chemistry.

LIM CHIN KUAN, B.Sc., M.Sc., F.R.I.C.,
Acting City Analyst.

TABLE A

RAW WATER
AVERAGES OF DAILY ANALYSIS FOR YEAR 1958
(IN PARTS PER MILLION)

| | TEBRAU RIVER | | PONTIAN RESERVOIR | | PEIRCE RESERVOIR | | MACRITCHIE RESERVOIR | |
|--|--------------|-------|-------------------|-------|------------------|-------|----------------------|-------|
| | Average | Range | Average | Range | Average | Range | Average | Range |
| Nitrite Nitrogen (as Nitrogen) | ... | a | ... | a | ... | a | ... | ... |
| Carbon Dioxide | ... | 3.1 | 2.4/3.7 | 2.1 | 1.2/4.0 | 1.3 | 1.1/1.7 | 1.2 |
| Total Alkalinity (as CaCO_3) | ... | 2.3 | 2.1/2.7 | 5.4 | 4.3/6.1 | 2.0 | 1.9/2.1 | 2.2 |
| pH Value | ... | 6.0 | 5.9/6.2 | 6.5 | 6.2/6.7 | 6.2 | 6.0/6.4 | 6.3 |
| Iron | ... | .39 | .29/.53 | .48 | .27/.71 | .49 | .41/.64 | .37 |
| Colour (Hazen Units) | ... | 31 | 22/49 | 18 | 14/24 | 24 | 16/48 | 25 |

TABLE B

TREATED WATER
AVERAGES OF DAILY ANALYSIS FOR YEAR 1958
(IN PARTS PER MILLION)

| | TEBRAU | | GUNONG PULAI | | WOODLEIGH | | BUKIT TIMAH | |
|--|------------------|-------|------------------|-------|------------------|-------|------------------|-----------|
| | CLEAR WATER TANK | | CLEAR WATER TANK | | CLEAR WATER TANK | | CLEAR WATER TANK | |
| | Average | Range | Average | Range | Average | Range | Average | Range |
| Nitrite Nitrogen (as Nitrogen) | ... | a | ... | a | ... | a | ... | a/t |
| Carbon Dioxide | ... | 0.04 | ... | 0.20 | 0.15 | 0.4 | 0.60 | 0.3/0.6 |
| Total Alkalinity (as CaCO_3) | ... | 12.3 | 11.6/13.9 | 11.4 | 9.7/13.3 | 6.2 | 5.4/7.9 | 7.9/12.0 |
| pH Value | ... | 8.6 | 8.4/8.7 | 8.2 | 7.7/8.8 | 7.1 | 7.0/7.3 | 7.2/7.9 |
| Free Chlorine | ... | 0.68 | 0.54/0.89 | 0.44 | 0.27/0.60 | 0.38 | 0.28/0.45 | 0.20/0.36 |
| Soluble Aluminium (as Al) | ... | 0.41 | 0.26/0.64 | 0.53 | 0.45/0.66 | 0.38 | 0.18/0.67 | 0.37/0.95 |
| Iron | ... | 0.05 | 0.05/0.09 | 0.20 | 0.13/0.39 | 0.14 | 0.10/0.19 | 0.11/0.22 |
| Colour (Hazen Units) | ... | <5 | 5 | 5 | 5/6 | 5 | ... | 5 |

TABLE C

CLEAR WATER TANKS
AVERAGES OF MONTHLY COMPLETE ANALYSIS 1958
(IN PARTS PER MILLION)

| | TEBRAU | GUNONG PULAI | WOODLEIGH | BUKIT TIMAH |
|--|------------------|------------------|--------------|--------------|
| | CLEAR WATER TANK | CLEAR WATER TANK | PUMPING MAIN | PUMPING MAIN |
| Ammoniacal Nitrogen (as NH ₃) | 0.14 | 0.11 | 0.16 | 0.13 |
| Albuminoid Nitrogen (as NH ₃) | 0.04 | 0.05 | 0.04 | 0.04 |
| Nitrite Nitrogen (as Nitrogen) | .. | .. | .. | t |
| Nitrate Nitrogen (as Nitrogen) | 0.05 | 0.04 | 0.02 | 0.02 |
| Carbon Dioxide | 0.30 | 0.20 | 0.70 | 0.65 |
| Total Alkalinity (as CaCO ₃) | 11.7 | 11.3 | 6.4 | 9.2 |
| Free Chlorine | 0.60 | 0.50 | 0.39 | 0.34 |
| Iron | 0.07 | 0.28 | 0.15 | 0.15 |
| Soluble Aluminium (as Al) | 0.46 | 0.46 | 0.37 | 0.59 |
| Chlorides (as Cl) | 6.7 | 6.6 | 7.0 | 6.8 |
| pH | 8.4 | 8.2 | 7.1 | 7.3 |
| Oxygen absorbed from KMnO ₄ soln. in 4 hrs. | 0.56 | 0.50 | 0.62 | 0.53 |
| Temporary Hardness (as CaCO ₃) | 11.7 | 11.4 | 6.4 | 9.2 |
| Permanent Hardness (as CaCO ₃) | 11.0 | 12.4 | 19.4 | 18.8 |
| Total Hardness (as CaCO ₃) | 22.6 | 23.8 | 25.8 | 27.9 |
| Total Dissolved Solids | 40.0 | 46.7 | 45.0 | 50 |
| Suspended Solids | 1.0 | 0.8 | 1.0 | 0.4 |
| Colour (Hazen Units) | 5 | 5.3 | 5 | 5 |
| B.O.D. in 3 days | 0.17 | 0.13 | 0.17 | 0.20 |

TABLE D

FOOD AND DRUGS SAMPLES ADULTERATED OR OTHERWISE IRREGULAR

| No. | Sample | Nature of Irregularity |
|---|-------------------------------|--|
| 16 | Milk | Deficient in solids-not-fat. |
| 2 | Milk | Deficient in fat. |
| 2 | Milk | Deficient in solids-not-fat and fat. |
| 2 | Skimmed Milk Powder .. | Not coloured as required by Regulations. |
| 1 | Sweetened Condensed Milk .. | No declaration of equivalent pints on label. |
| 1 | Sweetened Condensed Milk .. | Deficient in fat. |
| 9 | Soft Drinks | Contained saccharin. |
| 9 | Syrups, Squashes and Cordials | Contained saccharin. |
| 2 | Soya Bean Milk .. | Contained saccharin. |
| 3 | Grape Fruit Squash .. | Deficient in stated ascorbic acid content. |
| 2 | Blackcurrant Syrup .. | Deficient in stated ascorbic acid content. |
| 1 | Brandy | Deficient in proof spirit strength. |
| 1 | Whisky | Deficient in proof spirit strength. |
| 58 | Coffee Mixture .. | Deficient in coffee. |
| 13 | Coffee Powder .. | Not wholly coffee. |
| 1 | Chilli Powder .. | Adulterated with ground rice. |
| 26 | Coriander Powder .. | Adulterated with ground rice. |
| 1 | Pepper Powder .. | Adulterated with ground rice. |
| 1 | Chilli Sauce .. | Contained saccharin. |
| 1 | Tomato Sauce .. | Contained saccharin. |
| 11 | Soya Bean Sauce .. | Contained saccharin. |
| 1 | Salted Bean .. | Contained saccharin. |
| 2 | Preserved Soya Bean .. | Contained saccharin. |
| 1 | Preserved Soya Bean .. | Contained salicylic acid. |
| 7 | Vitamin B1 Tablets .. | Deficient in Vitamin B1. |
| 1 | Vitamin B Complex Tablets .. | Deficient in Vitamin B1. |
| 1 | A.P.C. Tablets .. | Deficient in stated ingredients. |
| 1 | Sulphonamide Preparation .. | Deficient in sulphonamide content. |
| 1 | Proprietary Analgesic .. | Deficient in stated phenacetin content. |
| 6 | "Chilla-mata" Eye Shadow .. | Contained lead sulphide. |
| Total number of formal samples received 749 | | |
| Number of unsatisfactory samples 184 | | |
| Percentage of unsatisfactory samples 24.6% | | |

BACTERIOLOGICAL DEPARTMENT

I HAVE THE HONOUR to submit a report on the work done during the year 1958.

The report comprises of the following sections:-

SECTION A—PUBLIC HEALTH SPECIMENS

| | | | 1956 | 1957 | 1958 |
|---|----|----|--------|--------|--------|
| City Health Office | .. | .. | 15,740 | 12,851 | 9,169 |
| Maternity and Infant Welfare Clinics | | .. | 8,169 | 9,532 | 10,867 |
| City Council Outdoor Dispensaries | | .. | — | — | 17 |
| Middleton Hospital | .. | .. | 13,247 | 16,596 | 16,331 |
| St. Andrew's Mission Hospital | .. | .. | 29 | 10 | 7 |
| Kwong Wai Siu Free Hospital | .. | .. | 3 | — | 2 |
| Johore and Tebrau Water Works | | .. | 613 | 182 | 207 |
| Private Medical Practitioners | .. | .. | 5,411 | 4,373 | 3,034 |
| Rats from Plague Prevention Section | | .. | 5,610 | 6,229 | 6,051 |
| Ecto-parasites of Rats from Plague Prevention Section | .. | .. | 3,218 | 6,709 | 6,293 |
| Total | .. | | 52,040 | 56,482 | 51,978 |

SECTION B—WATER

| | | | | | |
|-----------------------------|----|----|--------|--------|--------|
| Routine | .. | .. | 13,331 | 12,878 | 13,409 |
| City Council Swimming Pools | .. | .. | 2,494 | 3,633 | 2,894 |
| Miscellaneous | .. | .. | 315 | 371 | 326 |
| Algae, Sludge and Others | .. | .. | 67 | 91 | 103 |

SECTION C—WASH WATER

| | | | | | |
|-------------|----|----|--------|--------|--------|
| Wash Water | .. | .. | 36 | 35 | 36 |
| Grand Total | .. | | 68,283 | 73,490 | 68,746 |

Malaria.—827 blood films were examined for malarial parasites.

Five (5) specimens were positive for *P. falciparum*.

Nine (9) specimens were positive for *P. Vivax*.

Tuberculosis.—1,465 specimens were examined.

| | | | Positive | Negative | Total |
|--------|----|----|----------|----------|-------|
| Sputum | .. | .. | 27 | 1,403 | 1,430 |
| Milk | .. | .. | .. | 35 | 35 |
| Total | .. | | 27 | 1,438 | 1,465 |

| ----- | | Positive | Negative | Total |
|--|----------------|----------|----------|-------|
| <i>Enteric Fever:—</i> | | | | |
| Agglutination with Sal. typhi | .. | 129 | 573 | 702 |
| Agglutination with paratyphi A. | .. | 3 | 379 | 382 |
| Agglutination with paratyphi B. | .. | 25 | 357 | 382 |
| Agglutination with paratyphi C. | .. | 14 | 368 | 382 |
| Blood clot culture—Sal. typhi isolated | .. | 57 | 325 | 382 |
| Fæces culture—Sal. typhi isolated | .. | 50 | 1,122 | 1,172 |
| Urine culture—Sal. typhi isolated | .. | 5 | 1,150 | 1,155 |
| | Total .. | 283 | 4,274 | 4,557 |
| Agglutination with Vi I antigen | .. | .. | 701 | 701 |
| | Grand Total .. | .. | .. | 5,258 |

Tropical Typhus.—Blood for Weil Felix Reaction.

684 blood specimens were examined.

Only one specimen was positive for B. proteus OXK.

Dysenteries

1,811 specimens of fæces were examined for Amœbic Dysentery.

Entamœbæ histolytica were present in 43 specimens.

Entamœbæ coli were present in only one specimen.

1,652 specimens of fæces were examined for Bacillary dysentery.

Shigella flexner was isolated from 83 specimens.

Shigella sonnei was isolated from 102 specimens.

Plague.—No human specimens were received.

6,051 rats were dissected and none showed any signs of plague infection.

6,293 ecto-parasites were examined.

The species and distribution of all rats and ecto-parasites are given in the table attached.

Cerebro-Spinal Fever.—Only one specimen of cerebro-spinal fluid was examined.

Cholera.—Six (6) specimens of fæces were received.

Leprosy

22 smears were examined.

5 were positive.

Diphtheria.—Throat swabs, Nasal swabs, and Swabs from ulcers for culture for C. diphtheria.

11,498 specimens were examined.

1,477 specimens were positive.

The Government School Health authorities sent a total of 380 specimens during the period from January to March 1958.

MISCELLANEOUS EXAMINATIONS

| | | | |
|---|----|----------|--------|
| Pathological exudates for General Examination | .. | .. | 7 |
| Urine for General Examination | .. | .. | 2,154 |
| Pus and Urine for Gonococci | .. | .. | 417 |
| Blood for culture | .. | .. | 2 |
| *Blood for Kahn test | .. | .. | 4,738 |
| Blood for T.R.C., T.W.C., and Differential Counts | .. | .. | 574 |
| Blood for Haemoglobin estimation | .. | .. | 84 |
| Blood for B.S.R. | .. | .. | 48 |
| Blood for Micro-filaria | .. | .. | 1 |
| Faeces for Intestinal parasites | .. | .. | 10,671 |
| Sundried humus | .. | .. | 165 |
| Disinfectants | .. | .. | 4 |
| Milk bottles for sterility tests | .. | .. | 12 |
| Milk | .. | .. | 105 |
| Ice Cream | .. | .. | 198 |
| Leptospirosis (Rat specimen) | .. | .. | 1 |
| Canned Food | .. | .. | 28 |
| | | Total .. | 19,209 |

*Comments.—The routine Kahn tests for V.D. for all antenatal cases from the Maternity and Infant Welfare Department which began in June 1956, is still being continued. There were 4,066 specimens in 1958 compared to 6,149 specimens for 19 months of the previous years. The number of positives for 1958 was 156.

B. WATER

Routine.—13,409 routine samples of water were received from the City Water Engineer and 2,894 samples were received from the City Council Swimming Pools. Only 6 samples of water were received from the Mount Emily Swimming Pool.

The condition of the tap water remained satisfactory throughout the year. The following is a summary on the various samples examined:—

| Source | | Year's Average total colonies per ml. at. 37° C. in 24 hours | Year's Average presumptive coliform count per 100 ml. |
|------------------------------------|----|--|---|
| MacRitchie Res. Valve Tower | .. | 276 | 40 |
| Peirce Res. Valve Tower | .. | 336 | 12 |
| Seletar Res. Channel | .. | 216 | 15 |
| Pontian Res. Valve Tower | .. | 329 | 37 |
| Bukit Timah Res. Clear Water Tank | .. | 101 | Less than 1 |
| Woolleigh Res. Clear Water Tank | .. | 15 | Less than 1 |
| Gunong Pulai Res. Clear Water Tank | .. | 14 | Nil. |
| Tebrau (Outlet) Clear Water Tank | .. | 14 | Less than 2 |
| Pontian Res. Camp supply | .. | 24 | Less than 1 |
| Pearl's Hill Res. Tank 1 | .. | 24 | Nil. |
| Pearl's Hill Res. Tank 2 | .. | 24 | Less than 1 |
| Pearl's Hill Res. Air Valve | .. | 18 | Nil. |
| Fort Canning Res. | .. | 14 | Less than 1 |
| Taps—Bacteriological Laboratory | .. | 13 | Less than 1 |
| Lorong Lalat Office | .. | 15 | Nil. |
| Havelock Road Office | .. | 30 | Less than 1 |
| Pasir Panjang Office | .. | 29 | Less than 1 |
| Dunearn Road Office | .. | 23 | Less than 1 |
| Joo Chiat Road Office | .. | 22 | Nil. |
| Average of Six (6) taps | .. | 22 | Less than 1 |

Swimming Pools

(i) *Mount Emily*:-

Only 6 samples were received in 1958

(ii) *Yan Kit*:-

| | | | |
|-----------------------------|----|----|------|
| Shallow (Inlet) .. | .. | 10 | Nil. |
| Deep End (Practice Pool) .. | .. | 10 | Nil. |
| Main Pool (Inlet) .. | .. | 10 | Nil. |
| Main Pool (Outlet) .. | .. | 10 | Nil. |

(iii) *Farrer Park*:-

| | | | |
|-----------------------|----|----|------|
| Shallow (Inlet) .. | .. | 9 | Nil. |
| Shallow (Outlet) .. | .. | 9 | Nil. |
| Main Pool (Inlet) .. | .. | 9 | Nil. |
| Main Pool (Outlet) .. | .. | 10 | Nil. |

Miscellaneous

| | | | |
|----------------------------|----|----------|-----|
| Singapore Swimming Club .. | .. | .. | 207 |
| Tanglin Club .. | .. | .. | 46 |
| Chinese Swimming Club .. | .. | .. | 45 |
| Other Sources .. | .. | .. | 28 |
| | | Total .. | 326 |

Algae.—89 samples of water were examined for algae counts.

Sewage Effluent.—14 samples of sewage effluent were examined.

C. Wash Water.—36 samples of wash water were received from the Conservancy Department.

STAFF

1. Dr. Ng See Yook, the City Bacteriologist, was promoted to the post of City Health Officer on 1st December, 1958 after having acted as Deputy Health Officer for almost a year. During Dr. Ng's absence from the laboratory Dr. Ling Ding Seng acted as the City Bacteriologist in addition to the discharge of his duties of Assistant Health Officer (Anti-Mosquito Department). The post of City Bacteriologist is still vacant.

2. Mr. K. Munisamy, Senior Laboratory Attendant resigned from the City Council service on 1st December, 1958, after 31 years of faithful and excellent service.

GENERAL

The laboratory staff contributed exhibits at the Victoria Memorial Hall in connection with the Mass Health Movement of the City Council during the months of October—December. I take this opportunity to express my appreciation for their fine contributions which were favourably commented on by many spectators.

Dr. LING DING SENG, M.B., B.S., D.P.H.,
Acting City Bacteriologist.

Table 1.

RATS AND FLEAS—SPECIES AND DISTRIBUTION, YEAR 1958

| Source | <i>R. Norvegicus</i> | | <i>R. Rattus</i> | | <i>R. Concolor</i> | | <i>M. Musculus</i> | | <i>Croci-dura</i> | | Total Rats | Fleas X Cheo-pies | Fleas Others | C. Felis | Mites | Total Fleas | Remarks | | | | | | | |
|-------------|----------------------|-------|------------------|-----|--------------------|-----|--------------------|-----|-------------------|-------|------------|-------------------|--------------|----------|-------|-------------|---------|--|--|--|--|--|--|--|
| | M. | F. | M. | F. | M. | F. | M. | F. | 204 | 4,464 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| City Health | .. | 951 | 2,452 | 34 | 64 | 182 | 360 | 170 | 47 | 204 | 4,464 | 4,933 | .. | 4,933 | 684 | | | | | | | | | |
| Government | Health | 20 | 95 | 9 | 20 | 114 | 185 | 153 | 109 | 2 | 707 | 390 | 1 | 391 | 72 | | | | | | | | | |
| S. H. B. | .. | 31 | 57 | 84 | 136 | 7 | 17 | .. | 2 | .. | 334 | 175 | .. | 175 | 31 | | | | | | | | | |
| Port Health | .. | 1 | 2 | 98 | 141 | 65 | 79 | 58 | 101 | 1 | 546 | .. | .. | .. | .. | | | | | | | | | |
| Total | .. | 1,003 | 2,606 | 225 | 361 | 368 | 641 | 381 | 259 | 207 | 6,051 | 5,498 | 1 | 5,499 | 787 | | | | | | | | | |
| Grand Total | .. | 3,609 | 586 | | | | | | | | | | | 5,499 | 787 | | | | | | | | | |

Fumigated H.C.N.

ANNUAL REPORT OF MATERNAL AND CHILD WELFARE DEPARTMENT 1958

| | | 1957 | 1958 |
|---|----|---------|---------|
| I. Total number of confinements in City Area | .. | 48,069 | 47,147 |
| Nature of Confinements: | | | |
| In Hospital | .. | 29,299 | 30,073 |
| By Private Doctors | .. | 3,576 | 3,267 |
| By Private Midwives | .. | 14,566 | 13,310 |
| By City Council Midwives | .. | 1,305 | 1,411 |
| With no skilled attention | .. | 628 | 497 |
| Of these confinements: | | | |
| Number of Mothers visited by District Sisters within 10 days after confinement | .. | 18,237 | 16,637 |
| Subsequent visits to sick mothers | .. | 3,172 | 5,802 |
| Sick Mothers treated in their homes by Lady Assistant Health Officers | .. | 5,325 | 6,668 |
| Maternal Deaths in Puerperium | .. | 8 | 14 |
| Mothers removed and untraced | .. | 525 | 334 |
| Total Number of Birth in City Area | .. | 46,503 | — |
| Number of twins | .. | 384 | 398 |
| Number of triplets | .. | 3 | 2 |
| Number of quadruplets | .. | — | 1 |
| Still-births | .. | 772 | 737 |
| Babies died | .. | — | 180 |
| Number of newborn babies seen by District Sisters | .. | 17,986 | 16,334 |
| Babies born in Hospital | .. | 28,754 | 29,784 |
| Babies untraced | .. | 527 | 510 |
| II. Free Midwifery Services from the Clinics | | | |
| Free Confinements conducted by the City Council Midwives | .. | 1,305 | 1,411 |
| Number of cases referred from Kandang Kerbau Hospital for post-natal domiciliary aftercare by City Council Midwives | .. | 12,597 | 14,106 |
| Abnormal cases referred to Kandang Kerbau Hospital | .. | 16 | 24 |
| Number of self attended deliveries followed up by City Council Midwives | .. | 116 | 84 |
| Total visits paid by City Council Midwives to patients' homes | .. | 41,965 | 41,626 |
| III. Visits paid by Health Visitors to homes | .. | 92,030 | 76,301 |
| 1st visits following Birth Report | .. | 30,939 | 28,343 |
| Subsequent visits | .. | 61,091 | 47,958 |
| Percentage of Total Births visited by Health Visitors | .. | 64.36% | 60.12% |
| Total number of visits of Sisters and Health Visitors to homes | .. | 128,653 | 98,740 |
| IV. Clinic Activities | | | |
| A. INFANTS | | | |
| New infants 1st attendances at Clinics .. | .. | 28,300 | 28,870 |
| Subsequent attendances of Infants at Clinics .. | .. | 185,460 | 188,699 |
| Total attendances .. | .. | 213,760 | 217,569 |
| Of these, attendances of Sick Babies were .. | .. | 134,693 | 151,167 |
| i.e. in percentage | .. | 63.01% | 69.48% |

| | | | 1957 | 1958 |
|--|----|---------------------|--------------------|------------------|
| B. TODDLERS —1st visits .. | .. | .. | 43,915 | 22,400 |
| Subsequent visits .. | .. | .. | 38,489 | 41,953 |
| | | Total visits .. | 82,404 | 64,353 |
| Of these, attendances of Sick Toddlers were i.e. in percentage .. | .. | | 19,095 22.67% | 43,335 67.34% |
| C. SICK MOTHERS | | | | |
| Number of Sick Mothers treated: | | | | |
| In Clinics | .. | .. | 27,023 | 34,449 |
| On District | .. | .. | 5,325 | 6,668 |
| | | Total .. | 32,348 | 41,117 |
| D. ANTENATAL CONSULTATIONS IN CLINICS | | | | |
| Antenatal mothers 1st attendances .. | .. | .. | 5,278 | 7,311 |
| Subsequent attendances .. | .. | .. | 14,078 | 18,032 |
| | | Total .. | 19,356 | 25,343 |
| Antenatal home visiting by Health Visitors .. | .. | .. | 8,724 | 7,128 |
| Kahn Blood Tests taken .. | .. | .. | 3,691 | 4,131 |
| Number positive .. | .. | .. | 121 | 161 |
| i.e. in percentage .. | .. | .. | 3.28% | 3.89% |
| E. VACCINATION OF INFANTS AGAINST SMALL-POX | | | | |
| Clinics | .. | .. | 19,211 | 19,896 |
| District | .. | .. | 3,883 | 3,988 |
| F. IMMUNISATION AGAINST DIPHTHERIA | | | <i>Mobile Team</i> | <i>Clinic</i> |
| <i>(a) Under 1 year old</i> | | | | |
| 1st injections | .. | .. | 9,073 | 6,667 |
| 2nd injections (Number who completed the course) | .. | .. | 8,549 | 5,046 |
| | | Total injections .. | 17,622 | 11,713 |
| <i>(b) Over 1 year</i> | | | | |
| 1st injections | .. | .. | 23,944 | — |
| 2nd injections (Number who completed the course) | .. | .. | 20,748 | — |
| | | Total injections .. | 44,692 | — |
| Visits to homes to follow-up cases .. | .. | .. | 5,696 | — |
| Febrile actions | .. | .. | 2,922 | — |
| <i>(c) T.A.F. Injections (over 10 years)</i> | | | | |
| 1st injections | .. | .. | 2,543 | 312 |
| 2nd injections | .. | .. | 2,084 | 196 |
| 3rd injections | .. | .. | 1,569 | — |
| | | Total .. | 6,196 | 508 |
| <i>(d) Contact Cases</i> | | | | |
| 1st injections | .. | .. | 1,698 | — |
| 2nd injections | .. | .. | 1,252 | — |
| | | Total .. | 2,950 | — |
| <i>(e) Boosting Doses</i> | .. | .. | 9,776 | 901 |
| | | | | 2,658 |

| | | | | | |
|---|----|-------|----|--------|--------|
| G. IMMUNISATION AGAINST DIPHTHERIA AND WHOOPING COUGH | | | | | |
| 1st injections | .. | .. | .. | 6,337 | 4,396 |
| 2nd injections | .. | .. | .. | 5,679 | 4,717 |
| 3rd injections (Number who completed the course) | .. | .. | .. | 4,932 | 4,568 |
| | | | | <hr/> | <hr/> |
| | | Total | .. | 16,948 | 13,681 |
| | | | | <hr/> | <hr/> |
| Febrile reactions | .. | .. | .. | 2,753 | 2,297 |
| | | | | | |
| H. TRIPLE ANTIGEN | | | | | |
| 1st injections | .. | .. | .. | — | 103 |
| 2nd injections | .. | .. | .. | — | 49 |
| 3rd injections | .. | .. | .. | — | 48 |
| | | | | <hr/> | <hr/> |
| | | Total | .. | — | 200 |
| | | | | <hr/> | <hr/> |
| I. B.C.G. VACCINATION | | | | | |
| No. of Babies under 1 month vaccinated | .. | .. | .. | — | 2,904 |
| No. of Babies returned for Mantoux Test | .. | .. | .. | — | 893 |
| | | | | | |
| J. FREE MILK POWDER | | | | | |
| Total number of babies given Free Milk | .. | .. | .. | 4,786 | 9,851 |
| Number of nursing mothers given Free Milk | .. | .. | .. | 942 | 1,139 |
| Number of Re-issues | .. | .. | .. | 45,210 | 64,423 |
| Amount given Salvation Army | .. | .. | .. | 1,200 | — |
| Amount given to Convent | .. | .. | .. | 1,200 | — |
| Total number of lb. Powdered Milk used | .. | .. | .. | 39,928 | 57,866 |
| | | | | | |
| V. Supervision of Midwives in Private Practice by Supervisor of Midwives | | | | | |
| (a) No. of inspections of Private Midwives bags | .. | .. | .. | 1,540 | 1,371 |
| (b) District visits to check on work of Private Midwives | .. | .. | .. | 2,342 | 1,857 |
| (c) Investigation of Puerperal Fever Cases reported | .. | .. | .. | 90 | 83 |
| (d) Investigation of Tetanus Neonatorum Cases reported | .. | .. | .. | 5 | 2 |
| | | | | | |
| VI. Medical Examination of City Council Female Staff | | | | | |
| (a) For fitness to join service, confirmation in service and to join Municipal Provident Fund | .. | .. | .. | 234 | 393 |
| | | | | 255 | 671 |
| (b) For treatment of ailments | .. | .. | .. | 489 | 1,064 |
| | | | | | |
| VII. Dental Clinic | | | | | |
| Anteratal Mothers | .. | .. | .. | — | 378 |
| Toddlers | .. | .. | .. | — | 40 |
| | | | | | |
| VIII. Attendances at Creches | | | | | |
| Infants | .. | .. | .. | — | 1,166 |
| Toddlers | .. | .. | .. | — | 17,742 |
| | | | | <hr/> | <hr/> |
| | | Total | .. | — | 18,908 |
| | | | | <hr/> | <hr/> |

COMMENTS

Pressure on the Clinics increased during 1958 as is evidenced by a study of the figures of attendances of children consultations and Antenatal sessions. During the year the treatment of toddlers up to 6 years old came within our legitimate province, whereas previously they were officially permitted to attend only up to 2 years old, but in actual practice were seen by the Clinic Staff when the mothers came with the whole family of children for consultation.

There was an ever growing accent on treatment, which though not actually, within the scope of Maternal and Child Welfare activities, has nevertheless been undertaken for years for minor ailments, as it is not possible and practical to separate curative and preventive medicine in our present state of society as yet.

Home Visiting figures showed a decline, whether by Antenatal Health Visitors, District Sisters to mothers in the puerperium or Health Visitors to babies in the 1st year of life. Health Visiting unfortunately had to be sacrificed as the logical answer to the difficulties of staffing shortages if the Clinics were to be sufficiently manned in order to maintain efficiency in the face of the increasing attendances.⁵ In addition staff had to be lent for other projects, whenever the need arose—e.g. to aid Fire Victims, to assist health education exhibitions, to undertake polio vaccine feeding etc.

Midwifery Services.—For half the year we carried on as best we could with 1 Midwife less than the usual total of 18 on the Establishment, due to the difficulty in filling the vacant post following the dismissal of one of the midwives.

There was an increase of over 100 confinement cases performed by the midwives, and a tremendous increase of nearly 2,000 cases for Post-Natal follow ups who had been delivered in Kandang Kerbau Hospital and discharged early within the first few days in the puerperium. Each Midwife has an average of 20 cases or more to attend daily and at times nearly 30. When these are scattered in the more outlying parts of the City area, it is a very heavy duty for them and the shortage of 1 member throws an extra burden on the others.

It is gratifying to see that self attended cases are getting less dropping from 116 in 1957 to 84 in 1958 and that the incidence of tetanus of the newborn is consequently diminishing.

Antenatal Sessions.—There has been a tremendous increase in the attendances of Antenatal mothers who would normally have been attending at Kandang Kerbau Hospital but were referred to the Clinics nearest where they lived. Eventually the number of attendances per clinic had to be restricted in order that the sessions could finish at a reasonable time instead of going on till well past 5 p.m. as happened at first. Due to staffing shortages, there was less visiting of Antenatal mothers in their homes to advise on preparations for domiciliary confinement and to see if the homes were suitable for the conduct of confinements.

Vaccination against Small-Pox.—Since the control of primary vaccination against small-pox in infants became the responsibility of this department, there has been stepping up of efforts to get these infants vaccinated as soon as possible after 2½–3 months of age. The Health Visitors and Vaccinators were set to do intensive home visiting of children who had passed six months without being vaccinated, to advise and to inform parents of the necessity for early vaccination. Although under the Quarantine and Prevention of Disease Ordinance there are powers to summon and fine those who have not been vaccinated

by six months of age, in actual practice, no summonses have ever been taken out, advice and persuasion being usually employed to try and convince parents, and where illhealth justified postponement, this was advised, to be obtained from clinic, hospital or private doctors. A large percentage of non-vaccinated cases were discovered but with the shortages of staff, it was difficult to follow them up by home visiting.

Expansion.—1958 was a year of many developments in the Maternal and Child Welfare Department.

1. *A Dental Clinic* for expectant mothers and toddlers was opened in Prinsep Street Clinic on 2nd January, 1958 thus initiating the supply of a long felt need. The dental officer, and nurse, drugs and equipment are being supplied by Government Dental Department. At first the Antenatal mothers were not very willing to take advantage of this service but with painstaking explanation of the importance and necessity of dental care in pregnancy, the response is now very encouraging. Cases are also referred from other City Council Maternal and Child Welfare Department Clinics by appointment. This one dental clinic alone cannot possibly fulfil the needs for dental care for Antenatal mothers and it is to be hoped that in due course this service can be offered in all the other Maternal and Child Welfare Clinics in the City area. Similarly in the case of toddlers, little attention had been given previously as the popular belief was that caries of milk teeth was perfectly natural and inevitable, and did not really matter, whereas actually the preservation of the health of milk teeth is of importance, affecting the dentition and future state of permanent teeth to come.

2. *B.C.G. Vaccination of the Newborn.*—After completion of training at Tan Tock Seng Hospital and Kandang Kerbau Maternity Hospital, a small team of our staff commenced this work in July in 2 of our clinics, at Prinsep Street Clinic and Kreta Ayer Clinic. B.C.G. vaccination was offered to newly born infants, within the first month of life along the lines that are being followed by Government in Kandang Kerbau Maternity Hospital and the Rural Maternity and Child Welfare Clinics. Pamphlets and consent forms in the 4 main languages had been prepared and publicity regarding this work had been spread in Antenatal clinics, by District Sisters visitings in the puerperium and through the Midwives in private practice. As the response was good, this work was later extended to Joo Chiat Clinic in October, but with the difficulties of staffing, it has not as yet been possible to offer it at all to the clinics in the City area.

3. *Creches.*—In fulfilment of the Mayor's expansion projects, 3 Creches were completed by the target date of June 30. Later on a fourth Creche commenced functioning in August. These are supplying a long felt need for the care of the small children of women who are forced by economic circumstances to go out to work. They were each planned to receive about 50 children, and every care had been taken that the physical health and recreational needs of growing children should be provided for within the limits of the budget. Owing to the increasing demand for these Creche facilities Council decided that the length of stay of each child should be limited to 2 months only.

4. *Institute of Health (Urban Health Centre).*—This building presented by the Government of United Kingdom to the people of Singapore was eventually completed and officially opened by the Minister of Health in March 1958, after several years of planning. The Maternal and Child Welfare section replaced the small temporary clinic in Moh Guan Terrace which

had been carrying on in very cramped conditions since 1948 in S.I.T. premises. Apart from all the usual Maternal and Child Welfare activities, it also provides selected cases for teaching purposes to medical students at the University, who meet here once a week.

5. *Mobile Anti-Diphtheria Immunisation Team.*—In the previous October an Immunisation Service had been started by the Health Department in Community Centres, the Maternal and Child Welfare Department lending staff to help. In February 1958 this work was brought under the control of the Maternal and Child Welfare Department which had been responsible for the immunisation programme in the clinics since its inception in 1939. It attempted to bring immunisation to the people in order to save them the trouble of coming to the Clinics. The team worked under great difficulties such as provision of transport for all the members to and from locations sometimes in unsuitable buildings with no facilities for sterilisation except their own portable stoves, and it entailed much liaison work with community centre leaders, and authorities owning buildings which could be borrowed, and still required home visiting by our Health Visitors to remind those who failed to return for second injections. These difficulties increased as the staff shortages became desperate, and when the polio epidemic broke out, and anti-diphtheria immunisation was suspended, this mobile team had to cease functioning.

STAFF

Doctors.—Dr. N. R. Tan returned to the Department at the end of June after successfully obtaining the Diploma of Public Health from the University of Malaya.

Dr. Tan Cheng Im left for U.K. in August to undertake a course leading to the Diploma of Child Health in Great Ormond St. Hospital.

Dr. Ivy Chew resigned from the service w.e.f. September. It was not possible to fill her post until November when Dr. Diana Loh Pui Ying joined the service.

Except for a few days, the department was thus short of 1 Doctor away on study leave throughout the year. With another Doctor on normal earned vacation leave, and for some months with 1 vacant post unfilled, the expansion projects to be planned and fulfilled, and the administration of the department was a great strain indeed. Alexandra Road Clinic had to force no Doctor for several months, the nursing staff having to manage the best they could with advising and immunising only, referring all cases for treatment to the nearest City Council dispensary at Prince Phillip Avenue, or to General Hospital, but many patients found their way to the Institute of Health adding to the case load there.

Resignations.—2 Health Sisters and 3 Health Visitors resigned during the year.

Dismissal.—1 Midwife was dismissed.

New Staff.—The intake of new staff sufficient to fill the vacancies and to man new projects was not easy and the time lag before it could be finally achieved threw extra strain on existing staff.

Examinations.—The Departmental Health Visitors Examination to cross the Bar at \$411 was held in March after a course of lectures held weekly in the past year. 20 Health Visitors sat for this exam, the external examiner being Miss Sankey, the W.H.O. Sister Tutor of the Public Health Nursing Course. 17 Health Visitors passed this examination. Those referred were given a re-exam in August and were successful, together with a fresh examinee attempting it the first time.

The Departmental Vaccinators Examination to cross the Bar at \$187 was held in March. The Vaccinator who sat for it failed and was given a second chance later in July together with another vaccinator attempting it the first time when they managed to satisfy the examiner.

Co-operation with other agencies.—As has been customary in the past, the Staff assisted in Baby Shows held outside working hours at the request of various organisations—e.g. the Tiong Bahru Community Centre, the Chinese Y.M.C.A., and St. Johns Ambulance Brigade.

In the Geylang Fire in Lorong Koo Chye, staff and equipment were rapidly mobilised from the first night to run the milk feeding of children and old people. They worked in three 8 hour shifts throughout the duration of the refugee camp at the Geylang School for nearly 1 month from 5/4—27/4. In addition a casualty station was run every afternoon by one of the Doctors of the Maternal and Child Welfare Department for the treatment of minor ailments of the inhabitants of the Camp. The staff have by now gained considerable experience in this kind of emergency work in Civil Disasters, having assisted in a previous Lorong 3 fire in September 1953 where the refugees were camped in the Lee Rubber Godown; in the Aljunied kampong fire October—November 1953 when the refugees were camped in the Badminton Hall; in St. Andrew's School where flood victims were camped in December 1954 and in the Silat Road fire September 1955 where the victims camped in the Old Airport building.

In the Mass Health movement campaign the nursing staff were able to assist both during duty hours in the exhibitions and in clinics, and district visiting and also outside duty hours spreading health propaganda.

During the Polio epidemic, 1 Senior Sister and 10 Health Visitors and 5 Clerks were seconded for polio vaccine feeding, co-operating with Government Health Staff and working in close liaison for two months. 4 of the Health Visitors were lent to Middleton Hospital to assist the staff there with the nursing of the increased cases, in addition to the 2 already there for training in Fever Nursing.

Dr. MAGGIE LIM,
*Senior Assistant Health Officer,
Maternity and Child Welfare Department.*

MIDDLETON HOSPITAL

I HAVE THE HONOUR to submit the Annual Report of the Middleton Hospital for the year 1958.

Table below shows the number of admissions, discharges, deaths, etc., during the year.

Table I

| Diseases | Remain-ing 31-12-57 | Admit-ted | Dis-charged | Transfer | Died | Remain-ing 31-12-58 |
|--|------------------------|-----------|-------------|----------|------|------------------------|
| Chicken-pox .. | 13 | 472 | 485 | .. | .. | .. |
| Chicken-pox/Broncho pneumonia .. | 1 | .. | .. | 1 | 1 | .. |
| Diphtheria .. | 38 | 548 | 529 | 1 | 34 | 22 |
| Diphtheria Carriers .. | 6 | 315 | 313 | .. | .. | 8 |
| A. A. Poliomyelitis (Paralytic) .. | 20 | 390 | 139 | 113 | 12 | 146 |
| A. A. Poliomyelitis (non-paralytic) .. | .. | 11 | 11 | .. | .. | .. |
| Post Poliomyelitis .. | .. | 3 | 3 | .. | .. | .. |
| Typhoid Fever .. | 11 | 127 | 129 | 1 | 4 | 4 |
| Post Diphtheritic Paralysis .. | .. | 2 | 2 | .. | .. | .. |
| Measles .. | 4 | 310 | 313 | .. | .. | 1 |
| Measles/Broncho pneumonia .. | .. | 44 | 34 | .. | 10 | .. |
| Measles/Gastro-enteritis .. | .. | 4 | 2 | .. | 2 | .. |
| T.B. Meningitis .. | .. | 7 | 7 | .. | .. | .. |
| Mumps .. | .. | 43 | 43 | .. | .. | .. |
| Whooping cough .. | .. | 38 | 37 | .. | 1 | .. |
| Amoebic Dysentery .. | 2 | 156 | 156 | .. | 2 | .. |
| Bacillary Dysentery (Flexner) .. | 1 | 37 | 38 | .. | .. | .. |
| Bacillary Dysentery (Sonne) .. | .. | 23 | 23 | .. | .. | .. |
| Clinical Dysentery .. | 2 | 92 | 93 | .. | 1 | .. |
| Rubella .. | .. | 7 | 7 | .. | .. | .. |
| Transverse Myelitis .. | .. | 3 | 1 | 1 | 1 | .. |
| Erysipelas .. | .. | 1 | 1 | .. | .. | .. |
| Encephalitis .. | .. | 10 | 5 | 1 | 4 | .. |
| Malaria S.T. .. | .. | 1 | 1 | .. | .. | .. |
| Ascariasis .. | .. | 6 | 6 | .. | .. | .. |
| Scrub Typhus .. | .. | 1 | 1 | .. | .. | .. |
| Pulmonary Tuberculosis .. | .. | 7 | 4 | 3 | .. | .. |
| Hemiplagia Right .. | .. | 2 | 2 | .. | .. | .. |
| Vincent's Angina .. | .. | 2 | 1 | .. | 1 | .. |
| Influenza .. | .. | 40 | 39 | .. | 1 | .. |
| Mental Deficiency/Clinic Dysen- teries .. | .. | 1 | .. | .. | 1 | .. |
| Stomatitis .. | .. | 2 | 1 | 1 | .. | .. |
| Observation/Carriers/Other Di- seases .. | .. | 973 | 947 | 13 | 8 | 9 |
| Total .. | 101 | 3,679 | 3,373 | 134 | 83 | 190 |

During the year there were 3,679 admissions with 83 deaths a mortality rate of 2.27 per cent.

DANGEROUS INFECTIOUS DISEASES

There were no cases of small-pox, cholera or plague.

DIPHTHERIA

Table II

DIPHTHERIA ADMISSIONS AND DEATHS FOR THE LAST 10 YEARS

| Year | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 | 1957 | 1958 |
|----------------|---------|-------|-------|-------|-------|------|------|------|------|--------|
| Admissions .. | 220 | 222 | 370 | 427 | 332 | 345 | 460 | 552 | 712 | 548 |
| Deaths .. | 42 | 28 | 91 | 80 | 47 | 34 | 41 | 47 | 58 | 34 |
| Mortality rate | 19.09 % | 12.61 | 24.59 | 18.73 | 14.15 | 9.86 | 8.91 | 8.51 | 8.14 | 6.20 % |

Table III

MONTHLY DIPHTHERIA ADMISSIONS AND DEATHS FOR THE YEAR

| Month | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|---------------|------|------|------|-------|-----|------|------|------|-------|------|------|------|-------|
| Admissions .. | 76 | 53 | 60 | 25 | 36 | 46 | 48 | 43 | 40 | 53 | 38 | 30 | 548 |
| Deaths .. | 3 | 1 | 6 | .. | 5 | 3 | 1 | 7 | 2 | 3 | 1 | 2 | 34 |

During the year the number of diphtheria admissions remained at a high level. 548 cases of diphtheria were admitted with 34 deaths, a mortality rate of 6.20 per cent the lowest on record. 6 cases died within 24 hours after admission. 64 cases required tracheotomy operation of which 15 died. In addition there were 315 cases of Diphtheria carriers.

It is gratifying to note that the Medical Advisory Committee has recommended to the Minister of Health that diphtheria immunization of young children should be made compulsory and it is to be hoped that when this is enforced, diphtheria will soon become a thing of the past.

Table IV

REGIONAL DISTRIBUTION OF DIPHTHERIA ADMISSIONS BY MONTH

| Month | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|----------|------|------|------|-------|-----|------|------|------|-------|------|------|------|-------|
| Urban .. | 65 | 47 | 49 | 17 | 31 | 39 | 40 | 40 | 33 | 42 | 29 | 26 | 458 |
| Rural .. | 11 | 6 | 11 | 8 | 5 | 7 | 8 | 3 | 7 | 11 | 9 | 4 | 90 |

Table V
DIPHTHERIA ADMISSIONS AND DEATHS BY AGE AND SEX GROUP

| Age group | | ADMISSIONS | | Total Admissions | DEATHS | | Total Deaths |
|-----------|---------------|------------|-----|------------------|--------|----|--------------|
| | | M. | F. | | M. | F. | |
| Under | 1 year | .. | 21 | 16 | 37 | 3 | .. |
| | 1 year | .. | 24 | 27 | 51 | 2 | 8 |
| | 2 years | .. | 39 | 28 | 67 | 2 | 2 |
| | 3 years | .. | 40 | 31 | 71 | 2 | 2 |
| | 4 years | .. | 28 | 26 | 54 | 5 | 3 |
| | 5 years | .. | 18 | 26 | 44 | .. | 1 |
| | 6 — 10 years | .. | 73 | 83 | 156 | 1 | 2 |
| | 11 — 14 years | .. | 19 | 16 | 35 | .. | 1 |
| | 15 — 19 years | .. | 10 | 3 | 13 | .. | .. |
| | 20 + | .. | 5 | 15 | 20 | .. | .. |
| Total | | 277 | 271 | 548 | 15 | 19 | 34 |

Table VI
DIPHTHERIA ADMISSIONS AND DEATHS BY ETHNIC GROUP

| Nationality | ADMISSIONS | | Total | DEATHS | | Total |
|-------------|------------|-----|-------|--------|-----|-------|
| | M. | F. | | M. | F. | |
| Europeans | .. | .. | 2 | .. | 2 | .. |
| Eurasians | .. | .. | 2 | .. | .. | .. |
| Chinese | .. | .. | 256 | 242 | 498 | 15 |
| Indians | .. | .. | 5 | 15 | 20 | .. |
| Malays | .. | .. | 8 | 11 | 19 | .. |
| Others | .. | .. | 4 | 3 | 7 | .. |
| Total | | 277 | 271 | 548 | 15 | 19 |
| | | | | | | 34 |

Table VII
DIPHTHERIA:—TYPE OF CASES AND DEATHS

| Type | Admissions | Deaths |
|----------------|------------|--------|
| Laryngeal | 134 | 28 |
| Nasopharyngeal | 45 | .. |
| Faucial | 323 | 6 |
| Nasal | 42 | .. |
| Aural | 4 | .. |
| Total | 548 | 34 |

Table VIII

DIPHTHERIA: ADMISSIONS, DEATHS AND TRACHEOTOMY OPERATIONS

| | | | | |
|---------------------------------------|----|----|----|-------|
| Total Admissions .. | .. | .. | .. | 548 |
| Total Deaths .. | .. | .. | .. | 34 |
| Case mortality rate .. | .. | .. | .. | 6.20% |
| Number of Tracheotomies done .. | .. | .. | .. | 64 |
| Number of deaths after Tracheotomy .. | .. | .. | .. | 15 |

POLIOMYELITIS

There were 404 admissions during the year of which 393 were paralytic and 11 non-paralytic. 3 cases of post-polio-myelitis were admitted. The case fatality rate was low: There were 12 deaths, a mortality rate of 2.97 per cent.

Table IX

A. A. POLIOMYELITIS. POLIOMYELITIS ADMISSIONS AND DEATHS FOR LAST 10 YEARS

| Year | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 | 1957 | 1958 |
|---------------|------|------|------|------|------|------|------|------|------|------|
| Admissions .. | 68 | 81 | 78 | 50 | 41 | 71 | 19 | 29 | 52 | 404 |
| Deaths .. | 2 | 10 | 8 | 8 | 5 | 2 | 2 | .. | 5 | 121 |

Table X

POLIOMYELITIS ADMISSIONS AND DEATHS BY MONTH

| Month | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|---------------|------|------|------|-------|-----|------|------|------|-------|------|------|------|-------|
| Admissions .. | 1 | .. | 1 | 1 | 1 | 2 | 1 | 7 | 33 | 174 | 116 | 67 | 404 |
| Deaths .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 4 | 3 | 12 |

Table XI

REGIONAL DISTRIBUTION OF POLIO CASES BY MONTH

| Month | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|----------|------|------|------|-------|-----|------|------|------|-------|------|------|------|-------|
| Urban .. | 1 | .. | 1 | 1 | 1 | 1 | .. | 6 | 21 | 127 | 82 | 37 | 278 |
| Rural .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | 12 | 47 | 34 | 30 | 126 |
| Total .. | 1 | .. | 1 | 1 | 1 | 2 | 1 | 7 | 33 | 174 | 116 | 67 | 404 |

Table XII

AGE GROUPS, ETHNIC GROUPS AND SEX OF POLIOMYELITIS CASES

| Age Group | EUROPEANS | | EURASIANS | | CHINESE | | INDIANS | | MALAYS | | OTHERS | | TOTAL | |
|--------------|-----------|----|-----------|----|---------|-----|---------|----|--------|----|--------|----|-------|-----|
| | M | F | M | F | M | F | M | F | M | F | M | F | M | F |
| Under 1 year | .. | .. | .. | .. | 28 | 26 | 5 | 7 | 5 | 5 | .. | .. | 38 | 38 |
| 1 year | .. | .. | .. | .. | 32 | 27 | 3 | 1 | 2 | 1 | .. | 1 | 37 | 30 |
| 2 years | .. | .. | .. | .. | 49 | 40 | 7 | 6 | 7 | 7 | .. | .. | 64 | 53 |
| 3 years | .. | .. | .. | .. | 29 | 14 | 3 | 2 | .. | 2 | *2 | 2 | 35 | 20 |
| 4 years | .. | .. | .. | .. | 8 | 5 | 2 | .. | .. | .. | 1 | 10 | 6 | 6 |
| 5 years | .. | .. | .. | .. | 6 | 6 | .. | .. | .. | .. | .. | .. | 6 | 6 |
| 6-10 years | .. | .. | .. | .. | 10 | 9 | 3 | 1 | 1 | 2 | .. | .. | 14 | 12 |
| 11-14 years | .. | .. | .. | .. | 2 | 4 | 1 | .. | .. | .. | .. | .. | 4 | 3 |
| 15-19 years | .. | 1 | .. | .. | 3 | .. | .. | .. | .. | .. | .. | .. | 4 | .. |
| 20 + | .. | 2 | .. | .. | 12 | 5 | 1 | 1 | 2 | .. | +1 | .. | 18 | 6 |
| Total | .. | 3 | .. | 1 | 181 | 133 | 24 | 18 | 17 | 17 | 4 | 4 | 230 | 174 |

*Javanese

†Australian

POLIO ADMISSIONS AND DEATHS BY ETHNIC GROUP

| | Admissions | | | Deaths | |
|------------|------------|-----------|---------|---------|--------|
| | Europeans | Eurasians | Chinese | Indians | Malays |
| Europeans | .. | .. | .. | 3 | .. |
| Eurasians | .. | .. | .. | 3 | .. |
| Chinese | .. | .. | .. | 314 | 11 |
| Indians | .. | .. | .. | 42 | 1 |
| Malays | .. | .. | .. | 34 | .. |
| Javanese | .. | .. | .. | 5 | .. |
| Australian | .. | .. | .. | 1 | .. |
| Others | .. | .. | .. | 2 | .. |
| Total | .. | | | 404 | 12 |

The outstanding feature of the year was the largest outbreak of poliomyelitis in the history of Singapore. It started in late August, reached its peak in October, and had subsided by the end of December. There were 7 cases from January to July, 6 in August, 30 in September, 174 in October, 116 in November and 66 in December. At the height of the outbreak, there were as many as 30 admissions daily for suspected poliomyelitis. The extensive publicity given to the outbreak in the press and radio, resulted in any child with the slightest pain or limp or alleged weakness in the limbs being sent immediately to the hospital.

This of course threw a great strain on the resources of the hospital. It is my pleasure to record that the Staff responded magnificently to the situation and indeed their efforts evoked praise from the public on a number of occasions.

Age Groups.—The main incidence of the disease was in children of preschool age. Children below 5 and especially below 3 years formed the most vulnerable group. However, older children and even adults were by no means immune. There were 24 cases among adults. The youngest patient was aged 40 days and the oldest 56 years.

Sex.—There were appreciably more male cases (230) than female cases (174). It may be that males have less resistance to the disease than females.

Ethnic Groups.—There was a conspicuous absence of cases among European children due possibly to previous immunization with the Salk Vaccine.

Case Fatality Rate.—12 fulminating cases with respiratory paralysis and inability to swallow died. The mortality rate was low (2.97 per cent) compared with that of epidemics in various parts of the world (5 to 70 per cent).

Paralysis.—11 cases were non-paralytic. The 393 paralytic cases had varying degrees of paralysis, ranging from minimal weakness to the most extensive paralysis requiring the use of a breathing machine.

Iron Lung.—In all 14 cases required the aid of the iron lung; of these 5 survived and 9 died. The cases which survived were all weaned from the lung after approximately two weeks.

Stool culture for polio virus.—This was carried out by Professor Hale in the Department of Bacteriology, University of Malaya. Of a total of 473 specimens (including specimens from suspected cases which later proved to be not poliomyelitis). 257 were negative and 216 were positive as follows:

| | | | | |
|--|----|----|----|---------------------|
| Type I Polio virus | .. | .. | .. | 187 |
| Attenuated Type II (post-Sabin) | | .. | .. | 1 |
| Type I and attenuated Type II polio virus (Post-Sabin) | | .. | .. | 2 |
| Type III | .. | .. | .. | 1 (admitted 3-1-58) |
| Echo | .. | .. | .. | 7 |
| Cosackie | .. | .. | .. | 2 |
| Enterovirus other than polio but (untyped) | .. | | .. | 11 |
| Awaiting typing | .. | .. | .. | 5 |
| | | | | 216 |

It was shown early in the outbreak that a Type I Virus was responsible. This was confirmed by subsequent routine stool culture. In 20 cases, an enterovirus other than the polio virus was isolated.

Post-Sabin cases.—17 paralytic cases gave a history of having taken the Sabin vaccine (Type II) previously. The majority were incubating the disease when they took the vaccine but in 4 cases the onset of the disease occurred more than 3 weeks after taking the vaccine which apparently had failed to protect the children concerned.

Transfer of cases.—To relieve the accumulation of cases in the hospital and to provide beds for acute cases, 109 cases of post-poliomyelitis who had passed the period of isolation (3 weeks) were transferred to the General Hospital and 4 cases to the St. Andrew's Mission Hospital.

Non-Poliomyelitis cases.—In addition to the poliomyelitis cases, a large number (242) of cases of diverse aetiology were referred to the hospital by doctors for suspected poliomyelitis. The commonest cause of confusion were cases of influenza, rheumatic arthritis and myalgia. Other cases were encephalitis, tuberculous meningitis, transverse myelitis, mumps, rubella, malaria, cerebral embolism, chorea, bronchopneumonia, bronchitis, acute rheumatism, peripheral neuritis, abscesses of thigh and leg, hysteria, bursitis, serum sickness, gastritis, malnutrition post-measles debility, congenital syphilis, whooping cough, pulmonary tuberculosis, beri-beri, pleural effusion, ulcer of scalp, pneumonitis, urticaria, epilepsy, Parkinsonism, Carcinoma of Pancreas and congenital heart disease.

Some of the cases make interesting reading.

One case of infective hepatitis with jaundice was sent in as suspected poliomyelitis because the patient complained of fever and weakness. Another doctor, without seeing his patient, rang up for the ambulance and sent her straight to Middleton Hospital when she telephoned him to say that she was feeling a bit breathless—all she had was a blocked nose due to a cold.

Table XIII
TYPHOID FEVER, ADMISSIONS AND DEATHS BY ETHNIC GROUP
(Deaths in brackets)

| Age | 0-10 | | 11-19 | | 20 plus | | Total | |
|-----------|------|--------|--------|-------|---------|--------|--------|--------|
| | M | F | M | F | M | F | M | F |
| Sex | | | | | | | | |
| Eurasians | .. | .. | .. | .. | .. | .. | .. | .. |
| Chinese | .. | .. | 16 (1) | 8 (1) | 20 | 10 | 18 (1) | 17 |
| Indians | .. | .. | .. | 1 | 2 | .. | 5 | 2 |
| Malays | .. | .. | 6 | 2 (1) | 5 | 2 | 5 | 4 |
| Others | .. | .. | .. | .. | .. | .. | 3 | .. |
| Total | .. | 22 (1) | 11 (2) | 27 | 12 | 32 (1) | 23 | 81 (2) |
| | | | | | | | | 46 (2) |

Table XIV
TYPHOID FEVER—ADMISSIONS AND DEATHS BY MONTH

| Month | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|---------------|------|------|------|-------|-----|------|------|------|-------|------|------|------|-------|
| Admissions .. | 10 | 8 | 15 | 16 | 16 | 8 | 14 | 13 | 12 | 10 | .. | 5 | 127 |
| Deaths .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | 4 |

127 cases of typhoid fever were admitted with 4 deaths. Of these there were 4 imported cases among seamen (2 Chinese, 1 Scot and 1 Japanese) 25 cases were from the rural area. 3 cases occurred in one household at Jalan Melayu but it was not possible to trace the source of infection.

A total of 364 persons employed by various Ice Cream Manufacturers and Dairy farms were investigated for the typhoid Carriers State: 4 were found to be Carriers.

CHICKEN-POX

473 cases of Chicken-pox were admitted during the year. There was one fatality in a Chinese girl, aged 2 years with Broncho-Pneumonia.

During the height of the poliomyelitis outbreak in October, admission of Chicken-pox cases was stopped, after consultation with the Director of Medical Services, due to an acute shortage of accommodation and staff.

Table XV
CHICKEN-POX: AGE, SEX AND ETHNIC GROUP

| Age | | 0-10 | | 11-19 | | 20 plus | | Total | | Grand Total |
|-----------|----|------|----|-------|----|---------|----|-------|-----|-------------|
| Sex | | M | F | M | F | M | F | M | F | |
| Eurasians | .. | 4 | .. | 3 | .. | 5 | 2 | 12 | 2 | 14 |
| Chinese | .. | 41 | 33 | 22 | 9 | 21 | 8 | 84 | 50 | 134 |
| Indians | .. | 35 | 27 | 29 | 8 | 114 | 14 | 178 | 49 | 227 |
| Malays | .. | 12 | 11 | 15 | 4 | 21 | 4 | 48 | 19 | 67 |
| Others | .. | 11 | 3 | 4 | 2 | 10 | .. | 25 | 5 | 30 |
| Total | .. | 103 | 74 | 73 | 23 | 171 | 28 | 347 | 125 | 472 |

As in previous years, male adult Indians formed the largest single group of cases.

Table XVI
CHICKEN-POX:—REGIONAL DISTRIBUTION BY MONTH

| Month | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|----------|------|------|------|-------|-----|------|------|------|-------|------|------|------|-------|
| Urban | 68 | 45 | 80 | 54 | 34 | 32 | 20 | 27 | 32 | 17 | .. | .. | 409 |
| Rural.. | 14 | 3 | 14 | 7 | 4 | 4 | 1 | 4 | 5 | 7 | .. | .. | 63 |
| Total .. | 82 | 48 | 94 | 61 | 38 | 36 | 21 | 31 | 37 | 24 | .. | .. | 472 |

Table XVII

DYSENTERY

TYPE OF DYSENTERY

| | | Admissions | Deaths |
|---------------------|-------------|------------|--------|
| Amoebic Dysentery | .. | .. | 156 |
| Bacillary Dysentery | (a) Flexner | .. | 37 |
| | (b) Sonne | .. | 23 |
| Clinical Dysentery | .. | .. | 92 |
| | Total .. | 308 | 3 |

Table XVIII
ADMISSIONS OF THE MORE IMPORTANT DISEASES FOR THE LAST 10 YEARS

| Diseases | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 | 1957 | 1958 |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Small-pox | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Plague | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cholera | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Chicken-pox | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Chicken-pox / Broncho / Pneumonia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Measles | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Rubella | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Diphtheria | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cerebro-spinal/Meningitis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Typhoid Fever | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Acute Anterior Poliomyelitis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Erysipelas | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Whooping Cough | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Scarlet Fever | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mumps | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Tropical Typhus | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Amœbic Dysentery | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Bacillary Dysentery | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Clinical Dysentery | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Other diseases carriers | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Observation | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total .. | 1,678 | 1,771 | 2,217 | 1,796 | 2,049 | 2,914 | 3,312 | 3,831 | 3,662 | 3,679 |

Table XIX
OTHER DISEASES

| Other Diseases | Remaining 31-12-57 | Admit- ted 1958 | Dis- charged | Transfer to Hospital | Died | Remaining 31-12-58 |
|---------------------------------|-----------------------|-----------------------|-----------------|----------------------------|------|-----------------------|
| Acute Tonsillitis .. | 1 | 138 | 138 | .. | .. | 1 |
| Acute Laryngitis .. | .. | 16 | 16 | .. | .. | .. |
| Acute Nasopharyngitis .. | .. | 8 | 8 | .. | .. | .. |
| Acute Bronchitis .. | .. | 6 | 6 | .. | .. | .. |
| Pyrexia of Unknown origin .. | 1 | 126 | 127 | .. | .. | .. |
| Rheumatic Fever .. | .. | 2 | 2 | .. | .. | .. |
| Rheumatoid Arthritis .. | .. | 9 | 9 | .. | .. | .. |
| Gastritis .. | .. | 4 | 4 | .. | .. | .. |
| Gastro-enteritis and Colitis .. | 2 | 32 | 33 | .. | 1 | .. |
| Appendicitis .. | .. | 2 | 2 | .. | .. | .. |
| Nasopharyngeal Carcinoma .. | .. | 1 | .. | .. | 1 | .. |
| Lobar Pneumonia .. | .. | 5 | 3 | .. | 2 | .. |
| Haemorrhoids .. | .. | 3 | 3 | .. | .. | .. |
| Anaemia .. | .. | 1 | 1 | .. | .. | .. |
| Amoebic Hepatitis .. | .. | 1 | 1 | .. | .. | .. |
| Infective Hepatitis .. | .. | 1 | 1 | .. | .. | .. |
| Pyelitis .. | .. | 1 | 1 | .. | .. | .. |
| Polyneuritis .. | .. | 3 | 3 | .. | .. | .. |
| Dermatitis .. | .. | 2 | 2 | .. | .. | .. |
| Ulcer of Palate .. | .. | 6 | 6 | .. | .. | .. |
| Ulcer Intestinal .. | .. | 1 | .. | .. | 1 | .. |
| Pharyngeal Ulcer .. | .. | 2 | 2 | .. | .. | .. |
| Adenitis .. | .. | 2 | 1 | .. | .. | .. |
| Radial Nerve Paralysis .. | .. | 1 | 1 | .. | .. | .. |
| Ludwig's Angina .. | .. | 1 | 1 | .. | .. | .. |
| Myalgia .. | .. | 6 | 6 | .. | .. | .. |
| Subarachoid Haemorrhage .. | .. | 1 | 1 | .. | .. | .. |
| Cerebral Haemorrhage .. | .. | 1 | .. | .. | 1 | .. |
| Cardiac Failure/Malnutrition .. | .. | 1 | .. | .. | 1 | .. |
| Impetigo .. | .. | 6 | 6 | .. | .. | .. |
| Malnutrition .. | .. | 1 | 1 | .. | .. | .. |
| Typhoid Carriers .. | .. | 364 | 364 | .. | .. | .. |
| Endocarditis .. | .. | 1 | 1 | .. | .. | .. |
| Liver Abscess .. | .. | 1 | 1 | .. | .. | .. |
| Carcinoma (Pancreas) .. | .. | 1 | .. | 1 | .. | .. |
| Congenital Heart Disease .. | .. | 2 | 1 | .. | .. | .. |
| Congenital Syphilis .. | .. | 1 | 1 | .. | .. | .. |
| Epilepsy .. | .. | 1 | 1 | .. | .. | .. |
| Asthmatic Bronchitis .. | .. | 1 | 1 | .. | .. | .. |
| Osteitis of Hip .. | .. | 1 | 1 | .. | .. | .. |
| Hyperemesis Gravidarum .. | .. | 1 | 1 | .. | .. | .. |
| Hysteria .. | .. | 1 | 1 | .. | .. | .. |
| Menopausal Syndrome .. | .. | 1 | 1 | .. | .. | .. |
| Bursitis .. | .. | 1 | 1 | .. | .. | .. |
| Allergic Rash .. | .. | 1 | .. | 1 | .. | .. |
| Drug Rash .. | .. | 4 | 4 | .. | .. | .. |
| Parkinsonism .. | .. | 1 | 1 | .. | .. | .. |
| Pneumonitis .. | .. | 1 | 1 | .. | .. | .. |
| Chorea (rheumatic) .. | .. | 1 | 1 | .. | .. | .. |
| Pleural Effusion .. | .. | 3 | 2 | .. | .. | .. |
| Beri-Beri .. | .. | 1 | 1 | .. | .. | .. |
| Abscess of thigh .. | .. | 4 | 4 | .. | .. | .. |
| Broncho-pneumonia .. | .. | 4 | 4 | .. | .. | .. |
| Nothing abnormal detected .. | .. | 2 | 2 | .. | .. | .. |
| Urticaria .. | .. | 1 | 1 | .. | .. | .. |
| Scalp ulcers .. | .. | 1 | 1 | .. | .. | .. |
| Thrush .. | .. | 3 | 3 | .. | .. | .. |
| Observation .. | .. | 180 | 162 | 10 | .. | 8 |
| Total .. | 4 | 973 | 947 | 13 | 8 | 9 |

MALARIA S.T.

1 Malay male baby aged 1 year 10 months, resident in Bukit Timah Road, 6½ miles, was admitted with falcipatum malaria during the year. There was a history of a brief sojourn in Johore shortly before the illness.

MEASLES

359 cases were admitted with 10 deaths from Broncho-Pneumonia and Gastro-enteritis.

Table XX

NO. OF ADMISSIONS, DAYS IN HOSPITAL AND DEATHS BY ETHNIC GROUPS

| Ethnic Group | REMAINING 1957 | | ADMITTED 1958 | | TOTAL | | Deaths |
|---------------------------|--------------------|-------------------------------|--------------------|-------------------------------|--------------------|-------------------------------|--------|
| | No. of Patients | No. of Days in Hospital | No. of Patients | No. of Days in Hospital | No. of Patients | No. of Days in Hospital | |
| Europeans | 2 | 451 | 31 | 389 | 33 | 840 | 1 |
| Eurasians | 2 | 6 | 46 | 434 | 48 | 440 | .. |
| Chinese | 68 | 4,719 | 2,494 | 29,012 | 2,562 | 33,731 | 78 |
| Indians and Pakistanis .. | 16 | 69 | 625 | 5,531 | 641 | 5,600 | 1 |
| Malays | 13 | 130 | 368 | 3,279 | 381 | 3,409 | 2 |
| Javanese | .. | .. | 54 | 396 | 54 | 396 | 1 |
| Others | .. | .. | 61 | 458 | 61 | 458 | .. |
| Total .. | 101 | 5,375 | 3,679 | 39,499 | 3,780 | 44,874 | 83 |

Table XXI

| Sex | Remaining 1957 | Admitted 1958 | Total Treated | Discharged | Transferred | Died | Remaining 1958 | Deaths % | Average Number of Patients |
|--------------|----------------|---------------|---------------|------------|-------------|------|----------------|----------|----------------------------|
| Male | 55 | 2,171 | 2,226 | 2,024 | 76 | 40 | 86 | .. | .. |
| Female | 46 | 1,508 | 1,554 | 1,349 | 58 | 43 | 104 | .. | .. |
| Total .. | 101 | 3,679 | 3,780 | 3,373 | 134 | 83 | 190 | 2.19 % | 123 |

Maximum capacity of the hospital = 250 beds.

AMBULANCE

A total of 1,155 cases of infectious diseases were removed by the Hospital Ambulance during the year.

HOSPITAL IMPROVEMENT

A boiler was obtained from the City Engineer and installed in the laundry to replace the old boiler which was condemned by the Government Inspector of Machinery as unfit for further service.

STAFF

Dr. R. S. Corbitt acted as Medical Superintendent from 1st January, 1958 to 5th January, 1958.

From 6th January, 1958 to 5th May, 1958 Dr. V. M. S. Thevathasan, S.A.H.O., acted as Medical Superintendent.

From 6th May, 1958 Dr. Leong Kwok Wah acted as Medical Superintendent after six months leave in U.K.

Sister Grace Kee Soon Bee resumed duty on 5th September, 1958 after completing her Colombo Plan Scholarship training in Australia.

To cope with the poliomyelitis outbreak, one temporary doctor was employed on a sessional basis and six attendants were recruited on a day-to-day basis.

ACKNOWLEDGMENTS

We are grateful to Professor Monteiro and Professor Ransome for acting as consultants and to Professor Karlen and Mr. Gunn for supervising the orthopædic treatment of post-poliomyelitis cases.

I would like to extend my thanks to the Staff for their excellent work during the poliomyelitis outbreak and for their co-operation and loyalty during the year.

Dr. K. W. LEONG,
*Acting Medical Superintendent,
 Middleton Hospital,
 Singapore.*

CITY ABATTOIRS

I HAVE THE HONOUR to submit my report for the year ending 31st December, 1958.

During the year 501,475 animals were slaughtered in the City Abattoirs: 417,199 were swine, 5,102 oxen, 862 buffaloes, 39 horses, 74,048 sheep and 4,225 goats.

245 swine, 9 oxen, 2 buffaloes, 529 sheep and 183 goats died in the pens.

67 swine died in the depot.

53 swine, 22 oxen, 7 buffaloes, 41 sheep and 5 goats (all carcasses) were totally condemned.

I have the honour to be,
Sir,
Your obedient servant,

M. G. BYRNE,
Acting Superintendent of Abattoirs.

| | Swine | Oxen | Buffaloes | Horses | Sheep | Goats |
|--|---------|-------|-----------|--------|--------|-------|
| Admitted for slaughter, 1958 .. | 417,521 | 5,128 | 859 | 39 | 74,626 | 4,397 |
| Slaughtered 1958 .. | 417,199 | 5,102 | 862 | 39 | 74,048 | 4,225 |
| Died in pens .. | 245 | 9 | 2 | .. | 529 | 183 |
| Died in depot .. | 67 | .. | .. | .. | .. | .. |
| Carcasses condemned .. | 53 | 22 | 7 | .. | 41 | 5 |
| Diseased organs, etc. condemned and destroyed in tons .. | 11 | 4.1 | 1.4 | .. | 8.4 | 0.1 |
| Released at owner's request .. | .. | .. | 1 | .. | .. | .. |

TOTAL RECEIPTS FOR THE YEAR 1958

| | \$ c. |
|--|----------------|
| Fee for slaughter at Cattle Section .. | 18,078 00 |
| Fee for slaughter at Sheep Section .. | 79,023 00 |
| Fee for slaughter at Pig Section .. | 835,042 00 |
| Fee for storage at French Road Depot .. | 8,459 45 |
| Fee for inspection of wild boar carcasses .. | 238 00 |
| Receipts for sale of blood and pigs' bristles .. | 120 00 |
| Receipts as pen rents (all slaughter houses) .. | 35,576 40 |
| Total Receipts for the year 1958 .. | 976,536 85 |
| Less refund of slaughter fees .. | 1,238 00 |
| Total Net Receipts for the year 1958 .. | 975,298 85 |
| Total Net Receipts for the year 1957 .. | 974,689 20 |

Special slaughtering licences issued during the year 1958:
4 pigs @ \$10 each, 22 sheep and 5 goats @ \$5 each ..

185 00

REPORT FOR THE YEAR ENDING 31ST DECEMBER, 1958

| | Swine | Oxen | Buffaloes | Sheep | Horses | Goats |
|--|---------|-------|-----------|--------|--------|-------|
| Number slaughtered .. | 417,199 | 5,012 | 862 | 74,048 | 39 | 4,225 |
| Died in pens .. | 245 | 9 | 2 | 529 | .. | 183 |
| Died in depot .. | 67 | .. | .. | .. | .. | .. |
| Carcases condemned .. | 53 | 22 | 7 | 41 | .. | 5 |
| Diseased organs, etc. condemned and destroyed in tons .. | 11 | 4.1 | 1.4 | 8.4 | .. | 0.1 |

CASES OF PARTIAL CONDEMNATION

| | Swine | Oxen | Buffaloes | Sheep | Goats |
|--------------------------|--------|-------|-----------|-------|-------|
| Abscesses .. | 15,743 | 1 | .. | .. | .. |
| Angiomatosis .. | .. | 8 | .. | .. | .. |
| Bruising/Fracture .. | 2,538 | 66 | 1 | 174 | 2 |
| Caseous Lymphadenitis .. | .. | .. | .. | 9,527 | .. |
| Cirrhosis .. | 176 | 6 | .. | 10 | 2 |
| Congestion .. | 18,716 | 8 | 4 | 8,847 | 4 |
| Cysts .. | 91 | 3 | 4 | 38 | 15 |
| Degeneration .. | 17 | .. | .. | 27 | .. |
| Fascioliasis .. | .. | 1,717 | 174 | 1 | 19 |
| Fatty Infiltration .. | 81 | 9 | .. | 739 | 1 |
| Hydronephrosis .. | 134 | .. | .. | .. | .. |
| Inflammation .. | 178 | 7 | 8 | 60 | .. |
| Maggots .. | .. | .. | .. | 46 | 3 |
| Mastitis (Mammitis) .. | .. | 12 | .. | .. | 2 |
| Melanosis .. | .. | .. | .. | 4 | .. |
| Metritis .. | .. | 4 | .. | .. | .. |
| Necrosis .. | 17 | .. | .. | .. | .. |
| Nephritis .. | 228 | .. | .. | 25 | .. |
| Onchocerciasis .. | .. | 203 | .. | .. | .. |
| Parasites .. | 159 | .. | .. | .. | .. |
| Pericarditis .. | 10 | .. | 2 | .. | .. |
| Pleurisy .. | 719 | .. | .. | 131 | 12 |
| Pneumonia .. | 745 | 11 | 3 | 89 | 32 |
| Pregnancy .. | 30 | 99 | 25 | .. | 7 |
| Sarcosporidiosis .. | .. | .. | 526 | .. | .. |
| Strongylosis .. | .. | .. | .. | 578 | 1 |
| Tuberculosis .. | .. | 71 | .. | .. | .. |

CASES OF TOTAL CONDEMNATION FOR THE YEAR 1958

| | Swine | Oxen | Buffaloes | Sheep | Goats | Total | | |
|--------------------------|-------|------|-----------|-------|-------|-------|---|-----|
| Bruising—Generalised | 2 | 1 | .. | 1 | 1 | 5 | | |
| Cysticercosis (Measles) | 10 | 1 | .. | .. | .. | 11 | | |
| Dropsy with Emaciation | 5 | 1 | 2 | 1 | .. | 9 | | |
| Jaundice | 8 | 1 | .. | 5 | .. | 14 | | |
| Mammitis—Septic | .. | 2 | .. | .. | .. | 2 | | |
| Metritis—Septic | .. | 2 | .. | .. | .. | 2 | | |
| Pyrexia | 20 | .. | .. | 31 | .. | 51 | | |
| Pneumonia—Gangrenous | 1 | 1 | .. | .. | 3 | 5 | | |
| Sarcosporidiosis | .. | .. | 5 | .. | .. | 5 | | |
| Septicaemia | 2 | 4 | .. | 2 | .. | 8 | | |
| Swine Fever | 2 | .. | .. | .. | .. | 2 | | |
| Tuberculosis—Generalised | .. | 7 | .. | .. | .. | 7 | | |
| Extreme Emaciation | 1 | 2 | .. | .. | 1 | 4 | | |
| Multiple Abscess | 1 | .. | .. | .. | .. | 1 | | |
| Pleurisy | 1 | .. | .. | 1 | .. | 2 | | |
| Total | .. | .. | 53 | 22 | 7 | 41 | 5 | 128 |

ANIMALS SLAUGHTERED MONTHLY IN THE CITY ABATTOIRS DURING THE YEAR 1958

| | Swine | Oxen | Buffaloes | Horses | Sheep | Goats |
|------------|---------|-------|-----------|--------|--------|-------|
| January | 35,647 | 459 | 87 | .. | 5,610 | 390 |
| February | 34,474 | 294 | 69 | 5 | 5,406 | 334 |
| March | 38,417 | 231 | 222 | 6 | 6,468 | 308 |
| April | 34,310 | 434 | 122 | 4 | 5,973 | 330 |
| May | 35,099 | 464 | 48 | 2 | 5,837 | 310 |
| June | 34,854 | 511 | 19 | 7 | 6,255 | 418 |
| July | 34,221 | 481 | 60 | 6 | 6,325 | 299 |
| August | 36,485 | 474 | 22 | .. | 6,728 | 357 |
| September | 33,374 | 419 | 25 | .. | 5,974 | 301 |
| October | 33,455 | 507 | 24 | 2 | 6,057 | 405 |
| November | 33,676 | 428 | 89 | 2 | 6,687 | 426 |
| December | 36,187 | 400 | 75 | 5 | 6,728 | 347 |
| Total 1958 | 417,199 | 5,102 | 862 | 39 | 74,048 | 4,225 |
| Total 1957 | 420,864 | 4,004 | 2,516 | 26 | 69,073 | 3,636 |

M. G. BYRNE,
Acting Superintendent of Abattoirs.

PUBLIC HEALTH INSPECTORS SECTION

STAFF

THE STAFF as at 31st December, 1958 was comprised of the Chief Public Health Inspector, two Divisional Public Health Inspectors, three Senior Public Health Inspectors, one Chief Food and Drugs Inspector, two Food and Drugs Inspectors, twenty qualified Public Health Inspectors and nine probationary Public Health Inspectors.

Leave.—Mr. Lee Kwong Soon, Deputy Chief Public Health Inspector, is at present on sick leave in hospital, and it has been confirmed by the Health Committee that his post will be abolished when it falls vacant.

Resignation.—Mr. C. G. Clunies-Ross, Senior Public Health Inspector, resigned from City Council Service on 15th October, 1958.

Mr. Seah Cheng Hock, qualified Public Health Inspector, resigned from City Council Service on 10th October, 1958.

Mr. J. W. Bennett, Chief Public Health Inspector, resigned from City Council Service with effect from 1st January, 1959.

Diploma of Royal Society of Health.—During the year Messrs. Goon Peng Yam, Charlie Chan Boon Kwang, and Wong Keng Mun attended the Royal Society of Health Course held in Singapore. All were successful in obtaining the Diploma.

Messrs. R. Rajakrishna and Sunny Choo Chiang Cheng, who left Singapore in February 1957 on a Colombo Plan Scholarship for the Royal Society of Health Course held in New Zealand, returned in June 1958 after having passed the final examination.

SANITARY WORK

During the year there were 10,604 man-working days. Of these 1,139 days vacation leave were granted and 204 sick leave taken. 1,338 days were spent for Meat Inspection at the City Abattoirs. The remaining 7,923 days were utilised as follows:—

Kampong Inspections.—Kampong Inspections were carried out in connection with Kampong Sanitation and the enforcement of the Swine By-laws. 145 man-working days were spent during which 2,331 huts were inspected.

Complaints Investigation.—A total of 2,245 complaints were received from the general public during the year involving 30,554 visits.

| Complaints | No. of Complaints | Primary Visits | Revisits | Total visits |
|------------------|-------------------|----------------|----------|--------------|
| Mosquitoes | 1,011 | 11,096 | 14,809 | 30,554 |
| Others | 1,234 | 4,649 | | |

Mosquito breeding was found in 3,885 premises.

Infectious Diseases.—The following cases of Infectious Disease were investigated and dealt with:—

| Polio-myelitis | Diphtheria | Chicken-pox | Typhus | Typhoid | Leprosy |
|----------------|------------|-------------|--------|---------|---------|
| 252 | 414 | 524 | 1 | 95 | 84 |

3,521 throat swabs were taken from diphtheria contacts where necessary.

3 cases of Infectious Disease were removed to Middleton Hospital by the Public Health Inspectors.

27 premises in which cases of Poliomyelitis occurred and their vicinities were dealt with by barrier spraying.

In the investigation of Infectious Diseases a total of 3,343 visits and revisits were made.

Meat Inspection.—Six Public Health Inspectors (3 qualified and 3 probationary) were sent monthly to the City Abattoirs to assist in the inspection of meat. A total of 1,338 man-working days was spent.

Food and Drugs.—1,368 samples were taken during the year by the Public Health Staff for Chemical analysis, bacteriological examination and breaches of the Food and Drugs Regulations, 1957, of which 576 samples were taken by the Public Health Inspectors and the remaining 792 by the Food and Drugs Inspectors.

217 samples were taken for bacteriological examination. For details, please see Appendix I, Table A.

Routine inspection of premises in connection with food and drugs was carried out by the Food and Drugs Inspectors involving 7,700 visits. 130,132 packages of unsound food and drugs were surrendered and destroyed. Please see Table B of Appendix I.

Offences and Prosecutions.—299 summonses were applied for for all types of infringements of the Ordinances and By-laws. There were 331 prosecutions with 280 convictions. 35 summonses were withdrawn, 28 not served and 9 cases acquitted. Total fines amounted to \$14,715.50.

Inspection of Premises.—Inspections carried out on other classes of premises not included in the above, total 47,479 visits as follows:—

| | | | | |
|-------------------------|----|----|----|---------------|
| Sauce Factories | .. | .. | .. | 168 |
| Oil mills | .. | .. | .. | 179 |
| Sawmills | .. | .. | .. | 74 |
| Smoke Observations | .. | .. | .. | 14 |
| Places of Entertainment | .. | .. | .. | 433 |
| City Markets | .. | .. | .. | 65 |
| Private Markets | .. | .. | .. | 33 |
| Coffee Grinding Mills | .. | .. | .. | 53 |
| Dry Cleaners | .. | .. | .. | 9 |
| Goldsmiths | .. | .. | .. | 18 |
| Printing Presses | .. | .. | .. | 465 |
| Licensed Premises | .. | .. | .. | 28,545 |
| Unlicensed Premises | .. | .. | .. | 923 |
| Public Houses | .. | .. | .. | 542 |
| Labour Ordinance | .. | .. | .. | 7 |
| Hotels | .. | .. | .. | 356 |
| Serving Notices | .. | .. | .. | 1,547 |
| Inspecting Notices | .. | .. | .. | 2,058 |
| Cautioning Cases | .. | .. | .. | 172 |
| Other Premises | .. | .. | .. | 11,818 |
| Total | .. | .. | .. | 47,479 |

In connection with the visits to:—

- (a) Places of Entertainment;
- (b) Printing Presses;
- (c) Public Houses;
- (d) Hotels.

These inspections were made with a view to putting up recommendations with regard to the licensing, registration or renewal of licences by Government.

Notices.—A total of 1,118 notices was served during the year. The following is a summary of notices served.

| Type of Notices | B/f | Served | Total | Complied with | Cancelled | C/f |
|-----------------------|-----|--------|-------|---------------|-----------|-----|
| Intimation | 136 | 677 | 813 | 587 | 90 | 136 |
| Limewash | 5 | 354 | 359 | 355 | .. | 4 |
| Nuisance | 29 | 83 | 112 | 35 | 18 | 59 |
| Abatement Order | 2 | 3 | 5 | 3 | .. | 2 |
| Well | 9 | 1 | 10 | .. | .. | 10 |
| Total .. | 181 | 1,118 | 1,299 | 980 | 108 | 211 |

Reports to Other Departments

| | | | |
|---------------------------|-------|-----|-----|
| City Cleansing Department | ... | ... | 245 |
| City Building Department | ... | ... | 137 |
| City Sewerage Department | ... | ... | 117 |
| City Fire Brigade | ... | ... | 53 |
| Other Departments | ... | ... | 272 |
| | Total | ... | 824 |

Plague Prevention Section

| | | |
|--|-----|-------|
| Total number of rats caught in the City Area | ... | 4,464 |
| Number of Fleas combed from the rats | ... | 4,933 |
| Number of Mites combed from the rats | ... | 684 |
| No plague infected rats were found. | | |

Cemetery Section

| | | | |
|------------------------------|-------|-----|--------|
| Burial in Public Cemeteries | ... | ... | 14,722 |
| Burial in Private Cemeteries | ... | ... | 590 |
| | Total | ... | 15,312 |
| Cremations | ... | ... | 215 |
| Exhumations | ... | ... | 2 |

For Number of Burials by Races see Table C.

GENERAL

During the year, because of the absence on leave of inspectors and the transferring of inspectors to the City Abattoirs and the Secretariat for Health Education Work in connection with the Mass Health Campaign on Anti-Spitting, Anti-Litter and Anti-Pest the work of the department was seriously handicapped by shortage of staff. Considerable time was spent by our Inspectors in preparing stalls for the exhibitions and on duty at the Victoria Memorial Hall during the Mass Health Campaign.

House-to-house visits were made by the Inspectors in certain areas of the City in connection with the T.B. Survey conducted by Government under the Colombo Plan.

With the help of the Inspectors the City Council Mobile Dispensary, which started during the year, found its way into the kampongs.

Food and Drugs Section.—There was nothing outstanding in the Food and Drugs Section during the year except (1) The action on "Chilla Mata", a kind of cosmetics, which is used locally for painting eye-brows. Samples of it were taken for analysis and it was found to be essentially lead sulphide. However, legal proceedings were not instituted against the vendors who surrendered their stocks to be destroyed. (2) In the latter part of the year information was received that unsound food was being imported into the Colony from Formosa. Investigations were made by the Food and Drugs Inspectors with a view to taking appropriate action on the importers. Action is also being taken by Government at the Harbour Board in checking all food coming into the Colony from Formosa.

TING SEW SAU,
Acting Chief Public Health Inspector.

APPENDIX I

Table A
SAMPLES TAKEN FOR CHEMICAL EXAMINATION

1. Food

| | | |
|---|-----|-----|
| Milk and Milk Products:— | | |
| Milk | ... | 158 |
| Sweetened Condensed Milk | 7 | |
| Evaporated Milk | 1 | |
| Skimmed Milk Powder | 30 | |
| Dried Milk | 19 | |
| Butter | 4 | |
| Cheese | 1 | |
| Other Milk Products | 10 | |
| | — | 230 |
| Coffee, Coffee Mixtures, Coffee Extracts, Cocoa and Tea:— | | |
| Coffee | 38 | |
| Coffee Mixture | 165 | |
| Coffee and Chicory | 2 | |
| Tea | 1 | |
| | — | 206 |
| Beverages:— | | |
| Whisky | 6 | |
| Brandy | 4 | |
| Rum | 1 | |
| Stout | 2 | |
| Champagne Perry | 1 | |
| Carbonated and Non-carbonated Drink | 255 | |
| | — | 269 |
| Edible Oil and Fats:— | | |
| Ground Nut Oil | 5 | |
| Cooking Oil | 17 | |
| | — | 22 |
| Sauces:— | | |
| Soya Bean Sauce | ... | 30 |
| Tomato Sauce | ... | 6 |
| Chillie Sauce | ... | 6 |
| Sauce Mixture | ... | 2 |
| | — | 44 |
| Spices and Condiments:— | | |
| Chinese Star Anise | ... | 1 |
| Pepper Powder | ... | 19 |
| Pepper Mixture | ... | 2 |
| Coriander Powder | ... | 30 |
| Other Spices | ... | 19 |
| | — | 71 |
| Vinegars:— | | |
| Artificial Vinegar | ... | 10 |
| Rice Vinegar | ... | 2 |
| Malt Vinegar | ... | 1 |
| Black Tap Vinegar | ... | 1 |
| | — | 14 |
| Colouring, Flavouring and Preserving Agents:— | | |
| Flavouring Powder | ... | 1 |
| Colouring Powder | ... | 1 |
| | — | 2 |
| Confectionery ... | | |
| Meat and Meat Products ... | ... | 7 |
| Fish and Fish Products ... | ... | 5 |
| Fruit and Vegetable Products ... | ... | 37 |
| Fresh Fruits ... | ... | 55 |
| Other Foods ... | ... | 17 |

2. Drugs

| | | | |
|-----------------------|-----|-----|-----|
| B.P. and B.P.C. Drugs | ... | ... | 27 |
| Vitamins | ... | ... | 32 |
| Proprietary Drugs | ... | ... | 51 |
| Chinese Drugs | ... | ... | 19 |
| Other Eastern Drugs | ... | ... | 3 |
| Cosmetics | ... | ... | 33 |
| | — | — | 165 |

APPENDIX I—*continued*

SAMPLES TAKEN FOR BACTERIOLOGICAL EXAMINATION

| | | | | |
|---------------------------|-----|-----|-------|-----|
| Ice Cream | ... | ... | ... | 124 |
| Popsicles | ... | ... | ... | 84 |
| Canned Vegetable Products | ... | ... | ... | 7 |
| Canned Fish Products | ... | ... | ... | 2 |
| | | | Total | 217 |

Table B

SUMMARY OF FOODSTUFFS AND DRUGS SURRENDERED AND DESTROYED

| | | Packages | Weight |
|------------------------------|-----|----------|-------------|
| Milk and Milk Products | ... | 64,378 | |
| Fish and Fish Products | ... | 870 | |
| Meat and Meat Products | ... | 354 | |
| Vegetable and Fruit Products | ... | 716 | |
| Other Canned Food | ... | 3,818 | |
| Frozen Beef | ... | 19 | 50,684½ lb. |
| Wheat Flour | ... | 56 | |
| Vegetables and Fruits | ... | 58,392 | |
| Confectionery | ... | 471 | |
| Oil and Fats | ... | 2 | |
| Mascura ("Chilla Mata") | ... | 1,056 | |
| | | 130,132 | 50,684½ lb. |

Table C

| | 1958 | Burials and Cremations made in City Cemeteries and licensed burial grounds in City Area | Exhumations |
|-----------|----------|--|---------------------|
| Europeans | .. | .. | 56 and 2 ashes |
| Eurasians | .. | .. | 87 and 1 ,, |
| Chinese | .. | .. | 13,172 and 3 ,, (5) |
| Malays | .. | .. | 1,312 (1) |
| Indians | .. | .. | 640 (209) |
| Others | .. | .. | 39 |
| | Total .. | 15,306 and 6 ashes (215) | 2 |

Figure in brackets denotes cremations.

CITY HALL DISPENSARY

A SHORT SUMMARY of the annual report of the three staff dispensaries for 1958 is submitted.

Table I
NO. OF ATTENDANCES AT THE THREE DISPENSARIES

| | | Main Dispensary | Lorong Lalat Dispensary | Alexandra Road Dispensary | Total |
|-------------|-----------|-----------------|-------------------------|---------------------------|---------|
| January .. | Staff .. | 1,439 | 199 | 141 | 1,779 |
| | Open Vote | 1,317 | 4,542 | 1,871 | 7,730 |
| February .. | Staff .. | 1,185 | 169 | 164 | 1,518 |
| | Open Vote | 1,034 | 3,521 | 1,383 | 5,938 |
| March .. | Staff .. | 1,518 | 301 | 258 | 2,077 |
| | Open Vote | 1,314 | 4,406 | 1,920 | 7,640 |
| April .. | Staff .. | 1,260 | 176 | 201 | 1,637 |
| | Open Vote | 954 | 3,768 | 1,842 | 6,564 |
| May .. | Staff .. | 1,396 | 196 | 178 | 1,770 |
| | Open Vote | 1,271 | 4,563 | 2,159 | 7,993 |
| June .. | Staff .. | 1,387 | 152 | 153 | 1,692 |
| | Open Vote | 1,198 | 4,319 | 1,852 | 7,369 |
| July .. | Staff .. | 1,738 | 297 | 176 | 2,211 |
| | Open Vote | 1,330 | 4,899 | 2,217 | 8,446 |
| August .. | Staff .. | 1,366 | 201 | 202 | 1,769 |
| | Open Vote | 1,151 | 4,077 | 1,903 | 7,131 |
| September | Staff .. | 1,513 | 233 | 144 | 1,890 |
| | Open Vote | 1,013 | 3,953 | 1,962 | 6,928 |
| October .. | Staff .. | 1,792 | 265 | 232 | 2,289 |
| | Open Vote | 1,516 | 5,178 | 2,486 | 9,180 |
| November | Staff .. | 1,399 | 211 | 218 | 1,828 |
| | Open Vote | 1,200 | 4,204 | 2,165 | 7,569 |
| December .. | Staff .. | 1,589 | 259 | 260 | 2,108 |
| | Open Vote | 1,188 | 4,721 | 2,402 | 8,311 |
| | Total .. | 32,068 | 54,810 | 26,489 | 113,367 |

Staff: 22,568

Open Vote: 90,799

In addition to the above, there were 1,117 staff attendances at Middleton Hospital and Maternity and Infant Welfare Clinics.

Table II

CHIEF CAUSES OF ILLNESS OF STAFF AND OPEN VOTE EMPLOYEES

| | | | | |
|---------------------------------------|----|----|-------|--------|
| Short Fevers | .. | .. | .. | 2,226 |
| Diseases of the nervous system | .. | .. | .. | 8,542 |
| Diseases of the respiratory system | .. | .. | .. | 13,007 |
| Diseases of the Cardiovascular system | .. | .. | .. | 566 |
| Diseases of the digestive system | .. | .. | .. | 5,370 |
| Diseases of the urogenital system | .. | .. | .. | 958 |
| Diseases of the eye | .. | .. | .. | 1,821 |
| Diseases of the ear | .. | .. | .. | 3,980 |
| Diseases due to deficiency | .. | .. | .. | 1,570 |
| Diseases of the Skin | .. | .. | .. | 5,222 |
| Dental Diseases | .. | .. | .. | 967 |
| Tuberculosis | .. | .. | .. | 83 |
| Venereal disease | .. | .. | .. | 245 |
| Diabetes | .. | .. | .. | 588 |
| Accidents and Injuries W.O.D. | .. | .. | .. | 3,928 |
| Accidents and Injuries Off Duty | .. | .. | .. | 6,498 |
| Eruptive Fevers | .. | .. | .. | 224 |
| Other diseases | .. | .. | .. | 3,202 |
| | | | Total | 58,997 |

There was no case of malaria reported during the year.

Table III

NO. OF DAYS' LEAVE GRANTED BY M.O. I/C STAFF, MIDDLETON HOSPITAL AND MATERNITY AND INFANT WELFARE CLINIC

| | | Staff Disp. | M. Hosp. | M. and I. W. |
|-----------|----|-------------|----------|--------------|
| Staff | .. | .. | 13,497 | 330 |
| Open Vote | .. | .. | 63,677 | — |
| Total | .. | 77,174 | 330 | 567 |

Table IV

NO. OF PATIENTS TREATED BY PRIVATE PRACTITIONERS AND LEAVE GRANTED

| | | No. of Cases | No. of Days' Leave |
|-----------|----|--------------|--------------------|
| Staff | .. | .. | 1,942 |
| Open Vote | .. | .. | 15,980 |
| Total | .. | 17,922 | 38,105 |

On the 10th of October, 1958 the practice of accepting the medical certificates from the private practitioners for the purpose of sick leave pay for the open vote employees and the Junior Staff was discontinued. On 1st of December, 1958 the Panel of doctors scheme for Senior Officers was discontinued.

As the result of the Council's above two decisions, all the open vote employees numbering about 10,000 and Junior and Senior Staff numbering 3,500 are now under the medical care of the three staff dispensaries.

Staff

| | | |
|----------------------------|----|----|
| No. of Medical Officers | .. | 5 |
| No. of Hospital Assistants | .. | 11 |
| No. of Clerks | .. | 5 |
| No. of Attendants | .. | 10 |

During the year under review, Doctors Williams, Nair, Weerakoon and Idicula resigned, and in the vacancies created by these resignations, Doctors Low Wah Lean, Joseph Stanley, Ong Cheng Hooi and Mukkerji were appointed.

A. C. S. RAJAN, M.B., B.S.,
Medical Officer i/c Staff.

PLAQUE PREVENTION

THE FOLLOWING IS A RETURN OF RATS CAUGHT FOR THE YEAR, 1958

| Source | R NORVFGI-CUS | | R RATTUS | | R CON-COLOR | | M MUS-CULUS | | M Croci-dura | | Total Preg. Rats | | Total Dead Rats | | Fleas X. Cheo-pies | | Fleas Others C. Felix | | Mite | | T LEWISI + ve - ve | | Average Fleas per rat | | Remarks |
|------------------|---------------|-------|----------|-----|-------------|-----|-------------|-----|--------------|-------|------------------|-----|-----------------|----|--------------------|-----|-----------------------|----|------|----|--------------------|----|-----------------------|----|---------|
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | |
| City Health .. | 951 | 2,452 | 34 | 64 | 182 | 360 | 170 | 47 | 204 | 4,464 | 245 | 140 | 4,933 | .. | 4,933 | 684 | .. | .. | 1.1 | .. | .. | .. | .. | .. | .. |
| Govt. Health .. | 20 | 95 | 9 | 20 | 114 | 185 | 153 | 109 | 2 | 707 | 38 | 1 | 390 | 1 | 391 | 72 | .. | .. | 0.55 | .. | .. | .. | .. | .. | .. |
| S.H.B. .. | 31 | 57 | 84 | 136 | 7 | 17 | .. | 2 | .. | 334 | 22 | 1 | 175 | .. | 175 | 31 | .. | .. | 0.52 | .. | .. | .. | .. | .. | .. |
| Port Health .. | 1 | 2 | 98 | 141 | 65 | 79 | 58 | 101 | 1 | 546 | 42 | 546 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total .. | 1,003 | 2,606 | 225 | 361 | 368 | 641 | 381 | 259 | 207 | 6,051 | 347 | 688 | 5,498 | 1 | 5,499 | 787 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Grand Total .. | 3,609 | 586 | 1,009 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Pregnant Rats .. | 227 | 44 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

88

All the Rats were dissected and none were found infected with Plague.
As per Deputy City Health Officer's instructions, a total of 61 live rats, trapped in the City Area, were sent to D.A.D.A.H. Headquarters Singapore Base District. These rats handed to D.A.D.A.H. were not included in the above totals.

INFECTIOUS DISEASE NURSE'S REPORT FOR THE YEAR 1958

| | MALAYS | CHINESE | | INDIANS | | OTHERS | | TOTAL | | | |
|---|--------|---------|-----|---------|-----|--------|----|-------|-------|----|-------|
| | | M. | F. | M. | F. | M. | F. | M. | F. | T. | |
| <i>(1) Home Visits</i> | | | | | | | | | | | |
| T.B. Patients first visits .. | 24 | .. | 46 | .. | 46 | .. | 2 | .. | 118 | .. | 118 |
| T.B. Patients untraceable .. | 3 | .. | 11 | .. | 6 | .. | .. | .. | 20 | .. | 20 |
| T.B. Revisits .. | 394 | .. | 546 | .. | 592 | .. | 19 | .. | 1,551 | .. | 1,551 |
| Total .. | 421 | .. | 603 | .. | 644 | .. | 21 | .. | 1,689 | .. | 1,689 |
| <i>Home Visits</i> | | | | | | | | | | | |
| Contacts first visits .. | 25 | 29 | 14 | 24 | 4 | 5 | .. | 2 | 43 | 60 | 103 |
| Contacts Revisits .. | 13 | 14 | 13 | 8 | 5 | 7 | .. | .. | 31 | 29 | 60 |
| Total .. | 38 | 43 | 27 | 32 | 9 | 12 | .. | 2 | 74 | 89 | 163 |
| <i>Details of Above</i> | | | | | | | | | | | |
| Contacts Adults referred to T.T.S.H. for X-ray .. | 1 | 10 | .. | 5 | .. | 5 | .. | .. | 1 | 20 | 21 |
| Contacts Adults referred to S.A.T.A. for X-ray .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| School Children referred to School Clinic .. | 10 | 6 | 5 | 4 | 3 | 3 | .. | .. | 18 | 13 | 31 |
| Total .. | 11 | 16 | 5 | 9 | 3 | 8 | .. | .. | 19 | 33 | 52 |
| <i>Mantoux Tests Done</i> | | | | | | | | | | | |
| Adults .. | .. | .. | 1 | .. | 1 | .. | .. | .. | 2 | .. | 2 |
| Children .. | 17 | 14 | 7 | 10 | 7 | 5 | .. | .. | 31 | 29 | 60 |
| Total .. | 17 | 14 | 8 | 10 | 8 | 5 | .. | .. | 33 | 29 | 62 |
| <i>Mantoux Tests Done</i> | | | | | | | | | | | |
| Positive .. | 8 | 9 | 7 | 2 | 6 | 4 | .. | .. | 21 | 15 | 36 |
| Negative .. | 7 | 6 | 3 | 7 | 2 | 3 | .. | .. | 12 | 16 | 28 |
| Total .. | 15 | 15 | 10 | 9 | 8 | 7 | .. | .. | 33 | 31 | 64 |
| Polio Investigation .. | 4 | 3 | 33 | 46 | 5 | 6 | 2 | 2 | 44 | 57 | 101 |

ALICE TAN,
Infectious Disease Nurse.

8565-210-11/60